

# CISSELL 50

SERVICE  
1b. MANUAL

C, F, K, R - MODELS LAUNDRY DRYERS

**GAS FIRED**

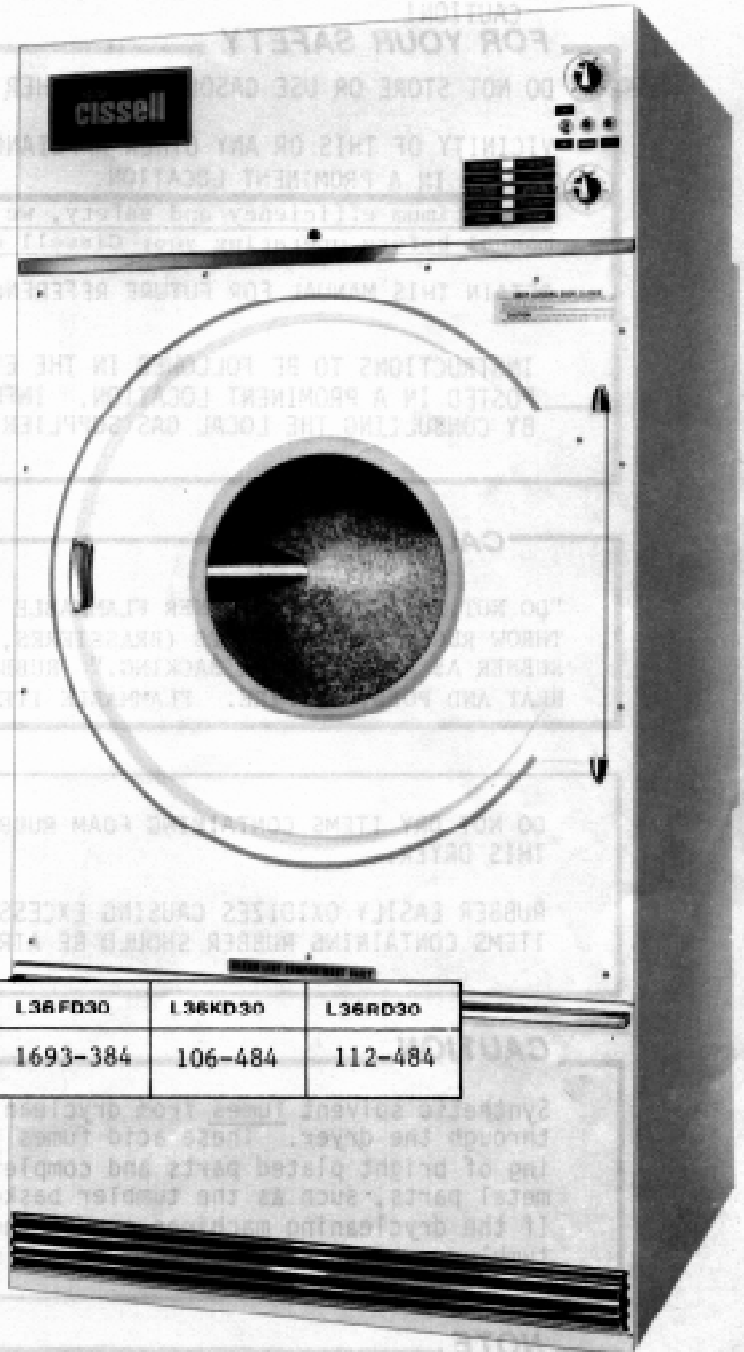
**ENERGY SAVER  
GAS FIRED**

**ELECTRIC HEATED**

**STEAM HEATED**

**Installation  
Operation**

**Trouble Analysis  
Maintenance  
Illustrated Parts**



MODEL	L36CS30	L36FS30	L36CD30	L36FD30	L36KD30	L36RD30
STARTING AT SERIAL NO.	5363-384	598-384	3254-384	1693-384	106-484	112-484

**Cissell Manufacturing Company**

831 S. FIRST STREET

LOUISVILLE, KENTUCKY 40203 U.S.A.

European Headquarters: PANTEX-CISSELL BV  
P.O. BOX 53,9870 AB WINSCHOTEN, HOLLAND

TELEX 53535

MAN14  
10/84

*"Ask Your Distributor"*

Printed in U.S.A.

WARNING: The Dryer Must Be Used Only For Water Washed Fabrics.  
WARNING: To Avoid Fire Hazard, Do Not Dry Articles Containing Foam Rubber Or Similarly Textured Rubber-like Materials.  
CAUTION: A Clothes Dryer Produces Combustible Lint And Should Be Exhausted Outside.  
CAUTION: A Clothes Dryer Produces Combustible Lint And The Area Around The Clothes Dryer Should Be Kept Free Of Lint.  
CAUTION: Remove Clothes From Dryer As Soon As It Stops. This Keeps Wrinkles From Setting In And Reduces The Possibility Of Spontaneous Combustion.

**CAUTION!**  
**FOR YOUR SAFETY**

DO NOT STORE OR USE GASOLINE OR OTHER FLAMMABLE VAPORS AND LIQUIDS IN THE VICINITY OF THIS OR ANY OTHER APPLIANCE. NOTE! THE PURCHASER TO POST THE CAUTION IN A PROMINENT LOCATION.

For optimum efficiency and safety, we recommend that you read the owner's manual before operating your Cissell commercial clothes dryer.

RETAIN THIS MANUAL FOR FUTURE REFERENCE. STORE MANUAL IN A FILE OR BINDER.

INSTRUCTIONS TO BE FOLLOWED IN THE EVENT THE USER SMELLS GAS MUST BE POSTED IN A PROMINENT LOCATION. INFORMATION TO BE POSTED CAN BE OBTAINED BY CONSULTING THE LOCAL GAS SUPPLIER.

**CAUTION**

"DO NOT PUT INTO THIS DRYER FLAMMABLE ITEMS SUCH AS: BABY BED MATTRESSES THROW RUGS, UNDERGARMENTS (BRASSIERES, ETC.) AND OTHER ITEMS WHICH USE RUBBER AS A PADDING OR BACKING." RUBBER EASILY OXIDIZES CAUSING EXCESSIVE HEAT AND POSSIBLE FIRE. FLAMMABLE ITEMS SHOULD BE AIR DRIED.

DO NOT DRY ITEMS CONTAINING FOAM RUBBER OR ANY RUBBER-LIKE MATERIALS IN THIS DRYER.

RUBBER EASILY OXIDIZES CAUSING EXCESSIVE HEAT AND POSSIBLE FIRE. ALL ITEMS CONTAINING RUBBER SHOULD BE AIR DRIED.

**CAUTION**

Synthetic solvent fumes from drycleaning machines create acids when drawn through the dryer. These acid fumes cause rusting of painted parts, pitting of bright plated parts and completely removes the zinc from galvanized metal parts, such as the tumbler basket.

If the drycleaning machines are in the same area as the tumbler, then the tumbler make-up air must come from a source free of solvent fumes.

**NOTE**

BE SAFE - SHUT MAIN POWER OFF EXTERNALLY TO MACHINE BEFORE SERVICING.

## WARRANTY

Cissell Manufacturing Company, (Cissell) warrants all new equipment (and the original parts thereof) to be free from defects in material or workmanship for a period of one (1) year from the date of sale thereof to an original purchaser for use, except as hereinafter provided. With respect to non-durable parts normally requiring replacement in less than one (1) year due to normal wear and tear, including, but not limited to, cloth goods, valve discs, hoses and iron cords, and with respect to all new repair or replacement parts for Cissell equipment for which the one (1) year warranty period has expired or for all new repair or replacement parts for equipment other than Cissell equipment, the warranty period is limited to ninety (90) days from date of sale. The warranty period on each new replacement part furnished by Cissell in fulfillment of the warranty on new equipment or parts shall be for the unexpired portion of the original warranty period on the part replaced.

With respect to electric motors, coin meters and other accessories furnished with the new equipment, but not manufactured by Cissell, the warranty is limited to that provided by the respective manufacturer.

Cissell's total liability arising out of the manufacture and sale of new equipment and parts, whether under the warranty or caused by Cissell's negligence or otherwise, shall be limited to Cissell repairing or replacing, at its option, any defective equipment or part returned f.o.b. Cissell's factory, transportation prepaid, within the applicable warranty period and found by Cissell to have been defective, and in no event shall Cissell be liable for damages of any kind, whether for any injury to persons or property or for any special or consequential damages. The liability of Cissell does not include furnishing (or paying for) any labor such as that required to service, remove or install; to diagnose troubles; to adjust, remove or replace defective equipment or a part; nor does it include any responsibility for transportation expense which is involved therein.

The warranty of Cissell is contingent upon installation and use of its equipment under normal operating conditions. The warranty is void on equipment or parts: that have been subjected to misuse, accident, or negligent damage; operated under loads, pressures, speeds, electrical connections, plumbing, or conditions other than those specified by Cissell; operated or repaired with other than genuine Cissell replacement parts; damaged by fire, flood, vandalism, or such other causes beyond the control of Cissell; altered or repaired in any way that effects the reliability or detracts from its performance, or; which have had the identification plate, or serial number, altered, effaced, or removed.

No defective equipment or part may be returned to Cissell for repair or replacement without prior written authorization from Cissell. Charges for unauthorized repairs will not be accepted or paid by Cissell.

CISSELL MAKES NO OTHER EXPRESS OR IMPLIED WARRANTY, STATUTORY OR OTHERWISE, CONCERNING THE EQUIPMENT OR PARTS INCLUDING, WITHOUT LIMITATION, A WARRANTY OF FITNESS FOR A PARTICULAR PURPOSE, OR A WARRANTY OF MERCHANTABILITY. THE WARRANTIES GIVEN ABOVE ARE EXPRESSLY IN LIEU OF ALL OTHER WARRANTIES, EXPRESS OR IMPLIED. CISSELL NEITHER ASSUMES, NOR AUTHORIZES ANY PERSON TO ASSUME FOR IT, ANY OTHER WARRANTY OR LIABILITY IN CONNECTION WITH THE MANUFACTURE, USE OR SALE OF ITS EQUIPMENT OR PARTS.

For warranty service, contact the Distributor from whom the Cissell equipment or part was purchased. If the Distributor cannot be reached, contact Cissell.

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REPLACEMENTS PARTS ARE AVAILABLE FROM DISTRIBUTORS OR:



**CISSELL**  
**MANUFACTURING COMPANY**  
831 South First Street  
Louisville, KY 40203

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Pacific Coast Office:  
4823 W. Jefferson Blvd.  
Los Angeles, CA 90016

Foreign Distributors  
write Export Dept.  
Cable Code "Cissell"

See additional Cissell  
Specification Sheets for  
information on other dryers.

Consult Cissell Price List  
for complete prices and  
ordering information.

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**EUROPEAN HEADQUARTERS: PANTEX-CISSELL B.V.**  
**P.O. BOX 53, 9670 AB WINSCHOTEN, HOLLAND**  
**TELEX 53535**

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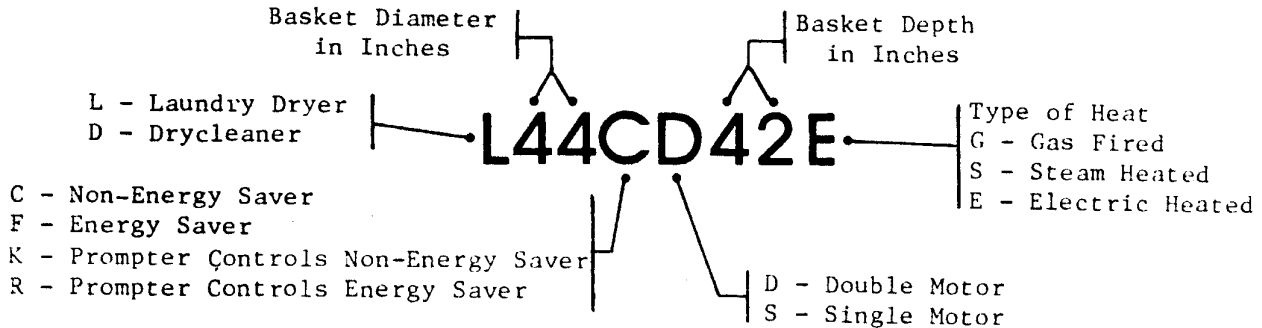
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# CISSELL DRYERS MODEL NUMBERS

The model number of your Cissell Dryer is very important. It tells the size and type of dryer as detailed below. Refer to this number in all correspondence and when ordering parts. Also refer to the voltage, hertz and phase as marked on the rating plate.



The 50 lb. Cissell dryers can be identified by the following list of model numbers. Throughout this manual the dryers may be referred to as the "50 lb. C Model, "K" model etc.

## List of 50 lb. Dryer Model Numbers

L36CD30E	L36FD30E
L36CD30G	L36FD30G
L36CD30S	L36FD30S
L36KD30E	L36RD30E
L36KD30G	L36RD30G
L36KD30S	L36RD30S

## UNPACKING

All Cissell dryers are packed in a protective (heavy-duty) plastic bag.

Upon arrival of the equipment, any damage in shipment should be reported to the carrier immediately.

When locating permanent location of unit, care should be taken in movement and placement of equipment.

See outline clearance diagrams for correct dimensions.

Remove all packing material such as: tapes, manuals, skid, etc. On gear reducer models, remove screw from air vent and cork from oil reserve well.

Leveling: Use spirit level on top of dryer. Adjust leveling bolts on dryer (see adjustable leveling bolts in maintenance section).

Check voltage and amperes on rating plate before installing the dryer.

## GENERAL INSTALLATION - ALL DRYERS

The construction of Cissell dryers permits installation side by side to save space or to provide a wall arrangement. Position dryer for the least amount of exhaust piping and elbows, and allow free access to the rear of dryer for future servicing of belts, pulleys and motors. Installation clearances from all combustible construction is 0" ceiling clearance, 0" rear clearance, and 0" side clearance.

Before operating dryer, open basket door and remove blocking between front panel and basket. Read all instruction tags, etc.

## GENERAL INFORMATION

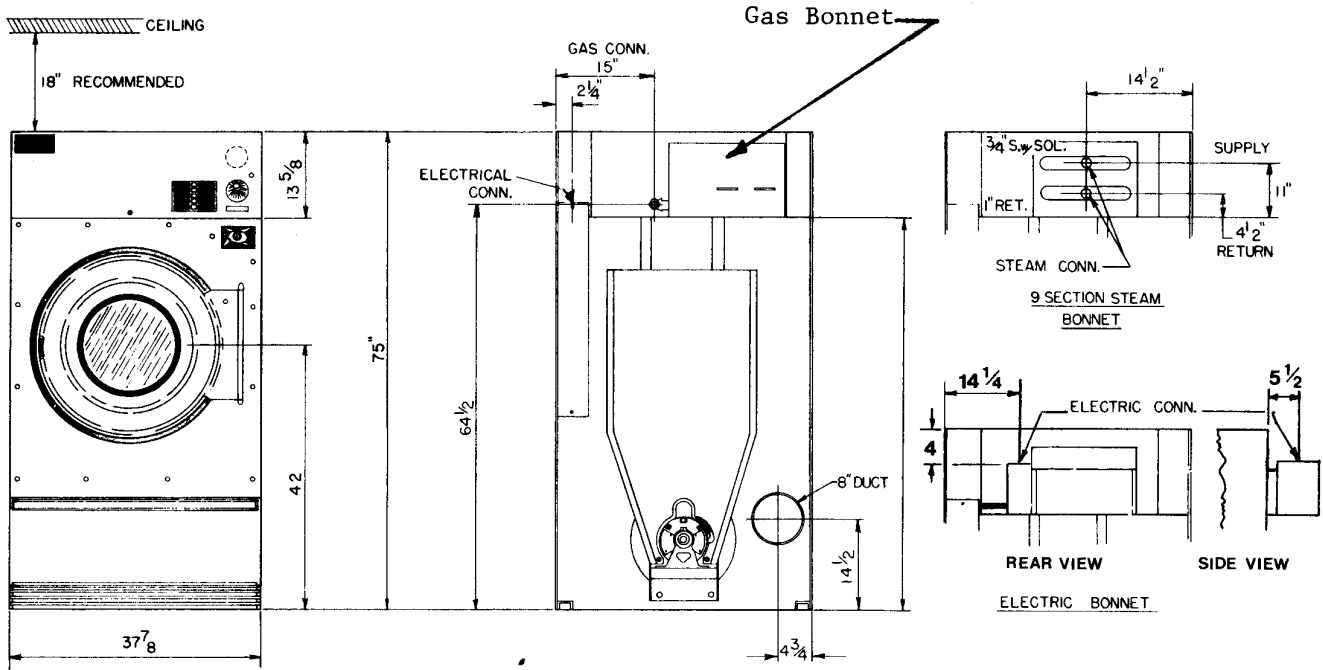
The Cissell Dryer is so designed that when an operator opens the dryer door, the basket and exhaust fan stops. You can expect fast drying from a Cissell Laundry Dryer. Hot, dry air is properly and effectively moved through basket and exhausted through a lint trap to atmosphere. The Cissell Dryer comes equipped with an inclined self-cleaning lint screen. In this system, lint accumulates on the underside of the screen until a blanket approximately 1/4" thick is formed. This blanket of lint will fall from the screen to the bottom of the dryer cabinet, and should be removed daily, or as required, to prevent an over accumulation.

## CISSELL "COOL-DOWN" CYCLE

Permanent press, durable press and other modern day fabrics require the care that your Cissell Laundry Dryers now provide.

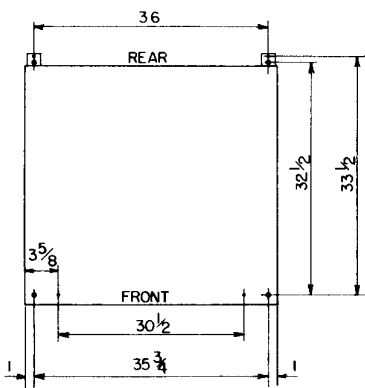
At the end of the drying cycle, a timed "cool-down" control automatically takes over and continues the rotation of the fan and basket without heat until the garment load reaches a safe cool temperature. This function is performed at the end of each drying cycle and continues for two minutes.

50 LB. C & K MODELS  
DRYER DIMENSIONS

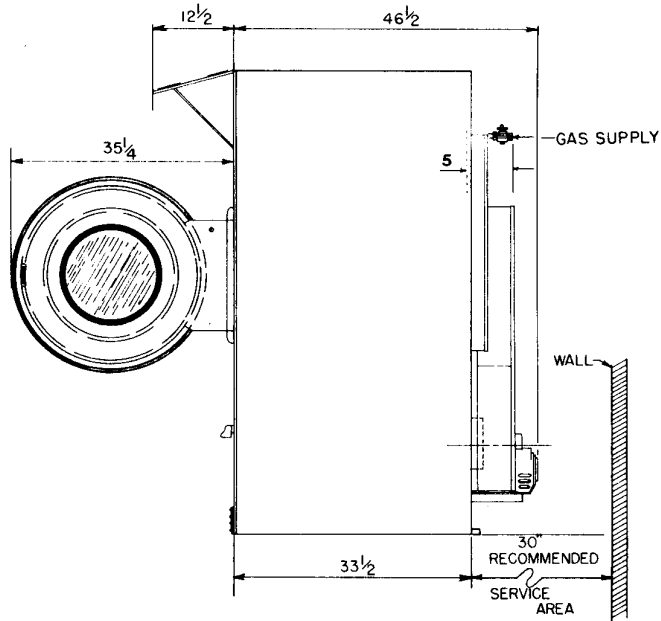


FRONT VIEW

REAR VIEW



MOUNTING HOLES



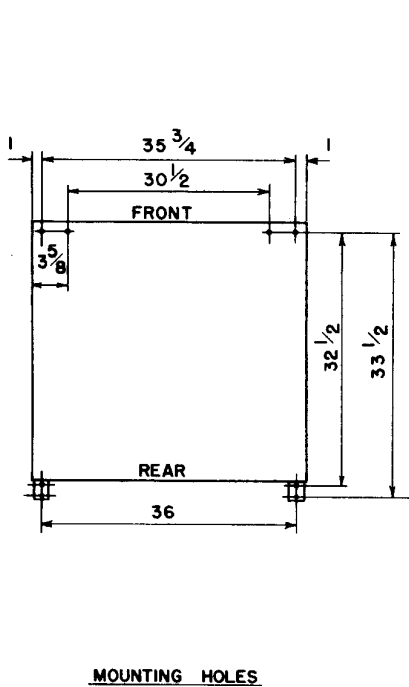
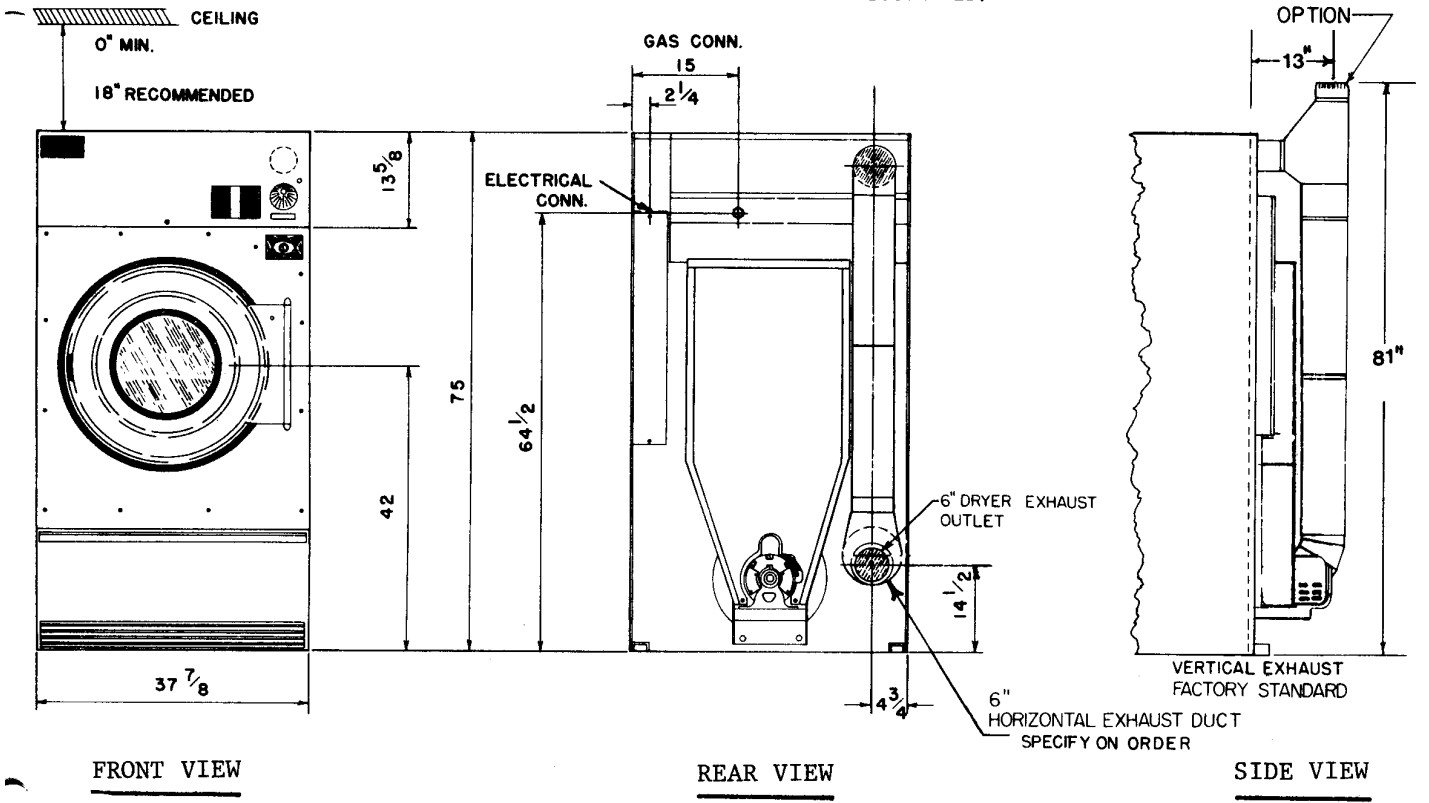
SIDE VIEW

ALL DIMENSIONS GIVEN IN INCHES ± 1/4



50 LB. F & R MODELS (ENERGY-SAVERS)  
 DRYER DIMENSIONS

(36FS30 ILLUSTRATED)



ALL DIMENSIONS GIVEN IN INCHES ± 1/4

SPECIFICATIONS  
50 LB. C & K MODELS

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General Specifications

Basket Load Capacity...	50 lbs (22.68 KG) Dryweight
Floor Space (Double Motor)...	75" (190.5CM) High x 45 1/8" (114.63CM) Deep x 37 7/8" (96.22CM) Wide
Floor Space (Single Motor)...	75" (190.5CM) x 46 1/2" (118.11CM) Deep x 37 7/8" (96.22CM) Wide
Basket Size...	36" (91.44CM) Diameter x 30"(76.2CM) Deep
Exhaust Duct...	8"(20.32CM) Diameter
Motor Size (Fan Motor)...	1/3 H.P. (36CD30)
Motor Size (Basket Size)...	1/2 H.P. (36CD30)
Motor Size (Single Motor)...	3/4 H.P. (36CS30)
Maximum Air Displacement...	800 C.F.M(22.65 M <sup>3</sup> /Min.)
Recommended Operating Range...	630-730 C.F.M.(17.84-20.67 M <sup>3</sup> /Min.)
Net Weight (Approximate)...	590 lbs. (267.62 KG) Model "CS" 640 lbs. (290.3 KG) Model "CD & KD"
Domestic Shipping Weight (1 carton)...	655 lbs. (297.1 KG) Model "CS"
Export Shipping Weight (1 Box)...	705 lbs. (319.78 KG) Model "CD & KD"
Export Shipping Weight (1 Carton)...	1130 lbs. (512.56 KG) Model "CS" 1180 lbs. (535.24 KG) Model "CD & KD"
Export Shipping Dimensions...	83"(210.82CM) Long x 45"(114.3CM) Wide x 55"(139.7CM) High
Basket R.P.M. ....	Reversing- 42-3.2 Reversals per minute Non- Rev.- 42

For total amps, check Electrical Rating Plate on dryer.

1. Can be designed for any voltage.
2. 50 HZ or 60 HZ
3. 1 or 3 Phase

Electrical wiring to dryer must comply with local electrical code requirements.

GAS FIRED DRYERS

Gas Supply...	1/2"(1.27CM) Pipe Connection
*B.T.U. Input (3 Burners)...	130,000/Hour (Natural Gas) 130,000/Hour (Liquid Petroleum Gases)
Electronic Ignition...	Silicon Carbide Gas Ignition System
Drying Time (Approximate)...	10 lbs.(4.54KG) dryweight (Indianhead) 100% moisture retention- 10 Minutes

\*Input ratings as shown are for elevations up to 2,000 ft.(609.6 M). For higher elevations, ratings should be reduced 4% for each 1,000 ft(304.8 M) above sea level.

ELECTRICALLY HEATED DRYERS

Heater Input...	30 Kilowatts per Hour
Total Heater Current...	See page 62
Drying Time (Approximate)...	12 lbs.(5.44KG) dryweight (IndianHead) 80% Moisture retention- 12 Minutes

STEAM HEATED - NINE SECTION

Maximum Air Displacement.....	800 C.F.M. (22.65 M <sup>3</sup> /Minute)
Recommended Operating Range.....	630-730 C.F.M. (17.84-20.67 M <sup>3</sup> /Minute)
Steam Supply Connection.....	3/4" (1.91 CM)
Steam Return Connection.....	3/4" (1.91 CM)
Operating Steam Pressure.....	7-15 PSIG (3.18-6.8KG) low pressure 100 PSIG (45.36 KG) Max. high pressure
Drying Time (approximate).....	25 lbs. (11.34KG) dryweight (Indian Head) 80% moisture retention - 30 minutes low pressure, 22 minutes high pressure
Steam Consumption.....	2.7 B.H.P. - 90 lbs. (40.7 KG) / Hour with normal load - high pressure .....3.4 B.H.P. - 117.3 lbs. (53.21 KG) / Hour with normal load - low pressure
Net Weight (approximate).....	640 lbs. (290.3 KG) Model "CS" 690 lbs. (312.98 KG) Model "CD & KD"
Domestic Shipping Weight - 1 carton.....	705 lbs. (319.78 KG) Model "CS" 755 lbs. (342.46 KG) Model "CD & KD"
Export Shipping Weight - 1 box.....	1182 lbs. (535.24 KG) Model "CS" 1230 lbs. (557.92 KG) Model "CD & KD"
Export Shipping Dimensions.....	83"(210.82 CM) Long x 45"(114.3 CM) Wide x 55"(139.7 CM) High

MOTOR NUMBER LIST FOR CLOTHES DRYER 50 LB. MODELS

CD, FD, RD, KD MODELS

<u>MOTOR NO.</u>	<u>VOLTAGE</u>	<u>CYC.</u>	<u>PH</u>	<u>H.P.</u>	<u>BASKET/FAN MOTOR</u>	<u>MOTOR AMPS</u>
MTR210	115/208-230	60	1	1/2	Basket	5.6/2.8
MTR213	208-230/460	60	3	1/2	Basket	1.9/.96
MTR138	120	50	1	1/2	Basket	7.8
MTR139	240	50	1	1/2	Basket	4.1
MTR151	208/240/480	50/60	3	1/2	Basket	2.0/1.0
MTR187	240/415	50	3	1/2	Basket	1.9/1.1
MTR111	575	60	3	1/2	Basket	.77
MTR209	115/208-230	60	1	1/3	Fan	5.2/2.6
MTR140	120	50	1	1/3	Fan	5.6
MTR141	240	50	1	1/3	Fan	3.4
MTR184	240/415	50	3	1/2	Fan	1.6/.9
MTR218	208/220/440	50/60	3	1/3	Fan	1.7/.85
MTR36	575	60	3	1/3	Fan	.59
MTR232	208/220/440	50	3	1/3	Fan	1.5/.75

CS, FS, RS, KS MODELS

MTR202	115/208-230	60	1	3/4	Basket & Fan	7.2/3.6
MTR126	120	50	1	3/4	Basket & Fan	12.0
MTR127	240	50	1	3/4	Basket & Fan	6.0
MTR211	208-230/460	60	3	3/4	Basket & Fan	2.6/1.3
MTR186	240/415	50	3	3/4	Basket & Fan	2.4/1.4

SPECIFICATIONS  
50 LB. F & R MODELS

Basket Capacity. . . . .	.50 lbs.(22.68 KG) dryweight
Floor Space. . . . .	.75"(190.5 CM) High x 53½"(135.89 CM) Deep x 37 7/8"(96.22 CM) Wide
Basket Size. . . . .	.36"(91.44 CM) Diameter x 30"(76.2 CM) Deep
**Exhaust Duct. . . . .	6"(15.24 CM) Diameter (Exhaust air pressure max. 0.3"(.76 CM) static pressure)
Motor Size(Fan). . . . .	1/3 H.P. (36FD30)
Motor Size(Basket) . . . . .	1/2 H.P. (36FD30)
Motor Size(single motor) . . . . .	3/4 H.P. (36FS30)
Basket R.P.M. . . . .	Reversing- 42-3.2 Reversals per minute Non-Rev. - 42

For total amps check electrical rating plate on dryer.

1. Can be designed for any voltage.
2. 50 or 60 HZ.
3. 1 or 3 Phase.

Maximum air displacement. . . . .	450 C.F.M (12.74 M <sup>3</sup> / Min.)
Recommended Operating Range. . . . .	.300-350 C.F.M (8.8-9.4 M <sup>3</sup> /Min.)

\*B.T.U. Input . . . . . 104,000 BTU/ Hour

Dryer (set at factory) gas burners built-in 3.5" (8.89 CM) regulated pressure (natural gas only).

Models can be equipped for use with natural gas or liquid petroleum gases (L.P.)

Gas Supply. . . . .	1/2" (1.27 CM) Pipe Connection
Drying Time (Approximate) . . . . .	10 lbs.(4.54 KG) dry weight (Indian Head) 100% moisture retention- 10 Minutes
Net Weight (Approximate) . . . . .	640 lbs.(290.3 KG) Model FS 690 lbs.(312.98 KG) Model FD & RD
Domestic Shipping Weight (Approximate). . . . .	705 lbs.(319.78 KG) Model FS 755 lbs.(342.46 KG) Model FD & RD
Export Shipping Weight (Approximate) . . . . .	1180 lbs.(535.24 KG) Model FS 1230 lbs.(557.92 KG) Model FD & RD

\* Input ratings as shown are for elevations up to 2,000ft.(609.6 M). For higher elevations, ratings should be reduced 4% for each 1,000 ft.(304.8 M) above sea level.

Electrical wiring to dryer must conform to local electrical code requirements.

\*\*Remove 5"(12.7 CM) I.D. exhaust ring for high altitude installations.

## WIRE SIZE OF POWER SUPPLY FOR ELECTRIC HEATING CIRCUIT

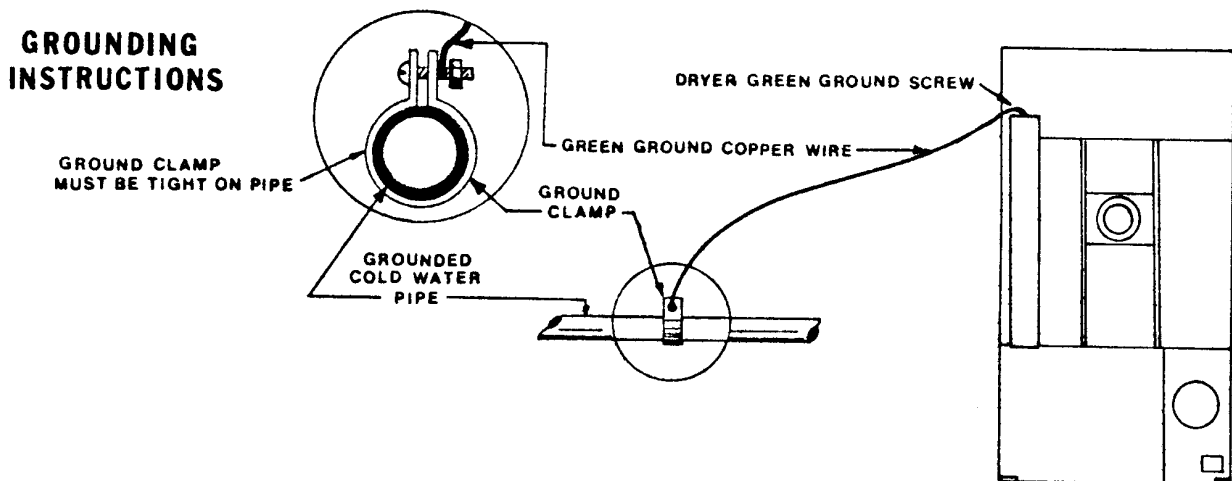
Rated Heater Output	Heater Amperes, Motor Amperes Control Amperes Total Amperes at Rated Voltage	Minimum Size Supply Wire Based on 60°C. (140°F.) Insulated Copper Conductor AWG/MCM	Conduit Trade Size	Controls Phase
30 KW @ 208V/3PH.	91 Amps.	2 AWG	1½"	1 PH
30 " " "	87 Amps.	2 AWG	1½"	1 PH
30 " " 240V/3PH.	79 Amps.	3 AWG	1½"	1 PH
30 " " "	76 Amps.	3 AWG	1½"	1 PH
30 " " 480V/3PH.	39 Amps.	8 AWG	1"	1 PH
30 " " 240/415V/3PH	76A./45 Amps	3 AWG/6 AWG	1½"/1½"	1 PH
30 " " 575V/3PH	35 Amps.	8 AWG	1"	1 PH

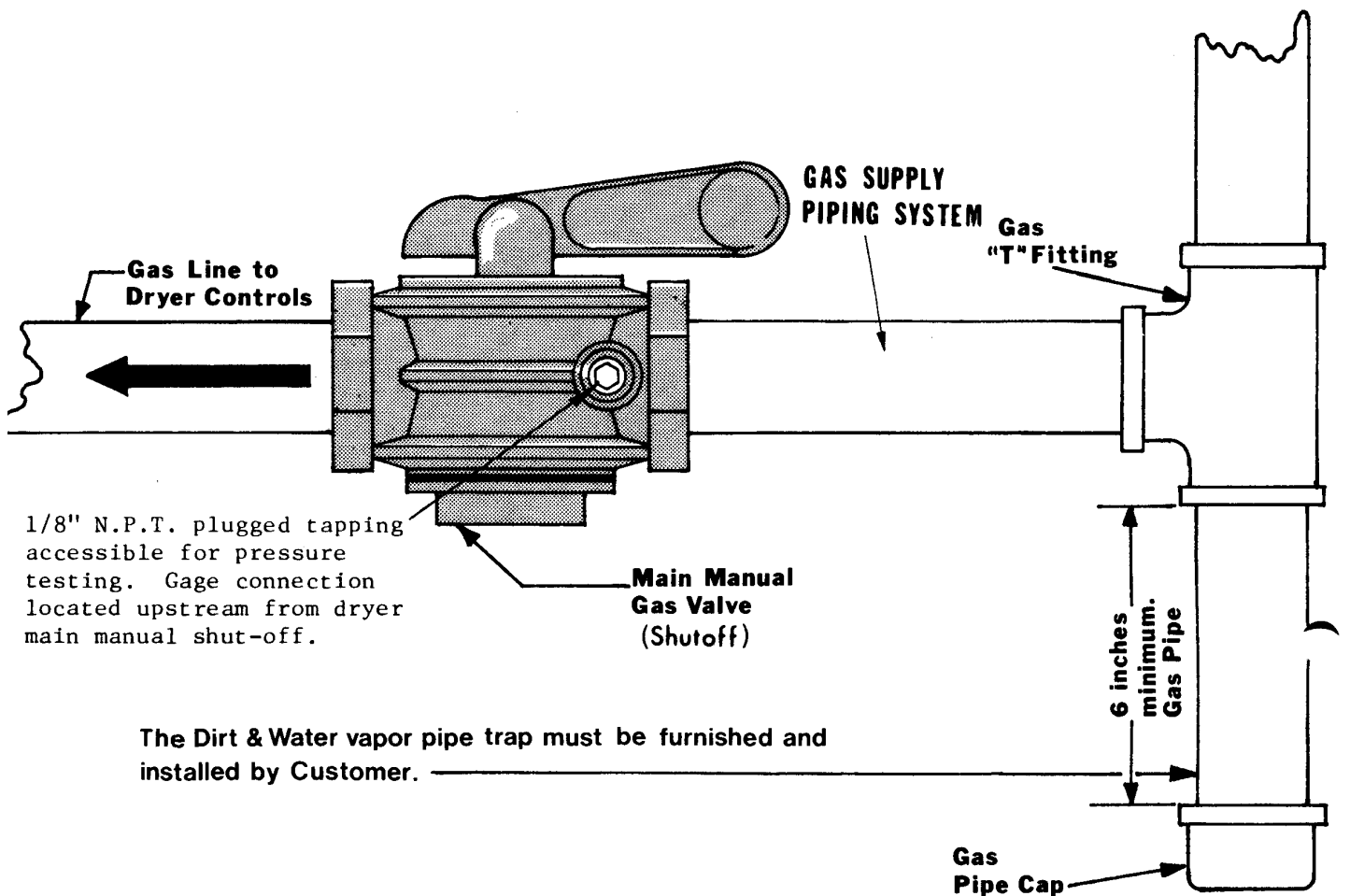
**CAUTION:** This machine has one power supply connection point. Disconnect power supply before servicing.

### ELECTRICAL CONNECTIONS - ALL DRYERS

Dryers must be electrically grounded - by a separate #14 or larger green wire from the grounding terminal within the service connection box to a cold water pipe, or through the fourth green wire properly grounded and connected to the grounding terminal. In all cases, the grounding method must comply with local electrical code requirements; or in the absence of local codes, with the National Electrical Code as ANSI/NFPA No. 70-1981.

See wiring diagram furnished with dryer. Your Cissell dryer is completely wired at the factory and it is only necessary for the electrician to connect the power leads to the wire connectors within the service connection box on the rear of the dryer. Do not change wiring without consulting factory as you may void the factory warranty. Do not connect the dryer to any voltage or current other than that specified on the dryer rating plate. (Wiring diagram is located on rear wall of dryer).





The dryer and it's individual shutoff valve must be disconnected from the gas supply piping system during any pressure testing of that system at test pressures in excess of  $\frac{1}{2}$  psig.

The dryer must be isolated from the gas supply piping system by closing it's individual manual shutoff valve during any pressure testing of the gas supply piping system at test pressures equal to or less than  $\frac{1}{2}$  psig.

TOTAL BTU/HR (for L.P. gas correct total BTU/HR below by multiplying by .6)	GAS PIPE SIZE FOR 1000 BTU NATURAL GAS AT 7" W.C. PRESSURE					
	In figuring total length of pipe, make allowance for tees and elbows.					
	25 Ft.	50 Ft.	75 Ft.	100 Ft.	125 Ft.	150 Ft.
60,000	3/4	3/4	3/4	3/4	3/4	3/4
80,000	3/4	3/4	3/4	1	1	1
100,000	3/4	3/4	1	1	1	1
120,000	3/4	1	1	1	1	1
140,000	3/4	1	1	1	1	1 1/4
160,000	3/4	1	1	1 1/4	1 1/4	1 1/4
180,000	1	1	1	1 1/4	1 1/4	1 1/4
200,000	1	1	1 1/4	1 1/4	1 1/4	1 1/2
300,000	1	1 1/4	1 1/4	1 1/2	1 1/2	1 1/2
400,000	1 1/4	1 1/4	1 1/2	1 1/2	1 1/2	2
500,000	1 1/4	1 1/2	1 1/2	2	2	2
600,000	1 1/2	1 1/2	2	2	2	2
700,000	1 1/2	2	2	2	2	2 1/2
800,000	1 1/2	2	2	2	2 1/2	2 1/2
900,000	2	2	2	2 1/2	2 1/2	2 1/2
1,000,000	2	2	2	2 1/2	2 1/2	2 1/2
1,100,000	2	2	2 1/2	2 1/2	2 1/2	2 1/2
1,200,000	2	2	2 1/2	2 1/2	2 1/2	2 1/2
1,300,000	2	2 1/2	2 1/2	2 1/2	2 1/2	2 1/2
1,400,000	2	2 1/2	2 1/2	2 1/2	3	3
1,500,000	2	2 1/2	2 1/2	2 1/2	3	3
1,600,000	2	2 1/2	2 1/2	3	3	3
1,700,000	2	2 1/2	2 1/2	3	3	3
1,800,000	2 1/2	2 1/2	3	3	3	3
1,900,000	2 1/2	2 1/2	3	3	3	3
2,000,000	2 1/2	2 1/2	3	3	3	3
2,200,000	2 1/2	3	3	3	3 1/2	3 1/2
2,400,000	2 1/2	3	3	3	3 1/2	3 1/2
2,600,000	2 1/2	3	3	3 1/2	3 1/2	3 1/2
2,800,000	2 1/2	3	3	3 1/2	3 1/2	3 1/2
3,000,000	2 1/2	3	3 1/2	3 1/2	3 1/2	4
3,200,000	3	3	3 1/2	3 1/2	3 1/2	4
3,400,000	3	3 1/2	3 1/2	3 1/2	4	4
3,600,000	3	3 1/2	3 1/2	3 1/2	4	4
3,800,000	3	3 1/2	3 1/2	4	4	4
4,000,000	3	3 1/2	3 1/2	4	4	4

GAS PIPING INSTALLATION

The installation must conform with local codes or, in the absence of local codes, with the National Fuel Gas Code as ANSI Z223.1-1980.

Check gas rating plate for type of gas to equip the dryer.

Check for altitude elevation of the dryer.

Check utilities for proper installation of gas supply line and gas pressure.

Natural Gas Only

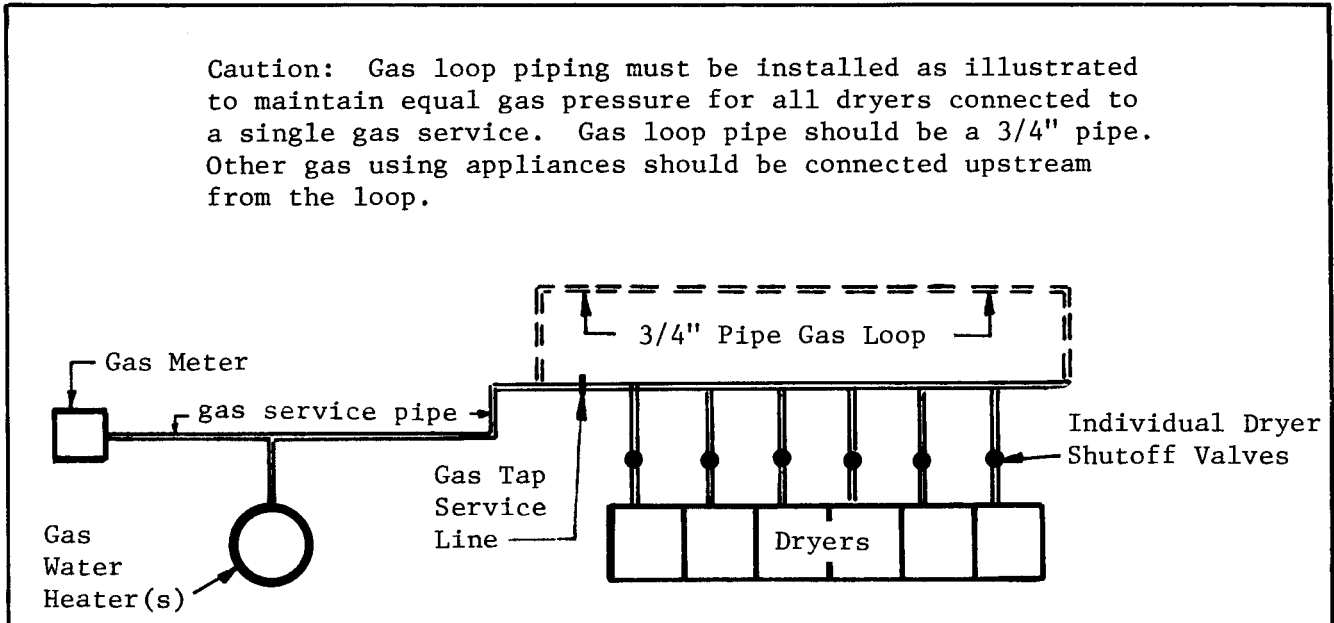
Check the gas pressure inlet supply to dryer, 12 inches W. C. Pressure maximum.

Check the manifold pressure, 3.5 inches W.C. Pressure inside the dryer.

CAUTION: Low gas pressure and intermittent gas will cause gas ignition problems and inadequate drying of the clothes load.

## GAS SERVICE INSTALLATION INFORMATION

The size of the gas service pipe is dependant upon many variables, such as tees, lengths, etc. Specific pipe size should be obtained from the gas supplier. Refer to the "Gas Pipe Size" chart in this manual for general gas pipe size information.



**WARNING:** If the dryer is to be connected to liquified petroleum (L.P.) gas, a vent to the outdoors must be provided.



### STEAM PIPING INSTALLATION INSTRUCTIONS:

1. Set and anchor dryer in position. Machine should be level to assure proper steam circulation.
2. To prevent condensate draining from headers to dryer, piping should have a minimum 12" above respective header. Do not make steam connection to header with a horizontal or downwardly facing tee or elbow.
3. Whenever possible, horizontal runs of steam lines must drain, by gravity, to respective steam header. Water pockets, or an improperly drained steam header will provide wet steam, causing improper operation of dryer. If pockets or improper drainage cannot be eliminated, install a by-pass trap to drain condensate from the low point in the steam supply header to the return.
4. In both steam supply and steam return line, it is recommended that each have a 3/4" union and 3/4" globe valve. This will enable you to disconnect the steam connections and service the dryer while your plant is in operation.
5. Before connecting trap and check valve to dryer, open globe valve in steam supply line and allow steam to flow through dryer to flush out any dirt and scale from dryer. This will assure proper operation of trap when connected.
6. After flushing system, install bucket trap (w/built in strainer) and check valve. For successful operation of dryer, install trap 18" below coil and as near to the dryer as possible. Inspect trap carefully for inlet and outlet markings and install according to trap manufacturer's instructions. If steam is gravity returned to boiler, omit trap but install check valve in return line near dryer.
7. Install union and globe valve in return line and make final pipe connections to return header.

### PIPING RECOMMENDATIONS:

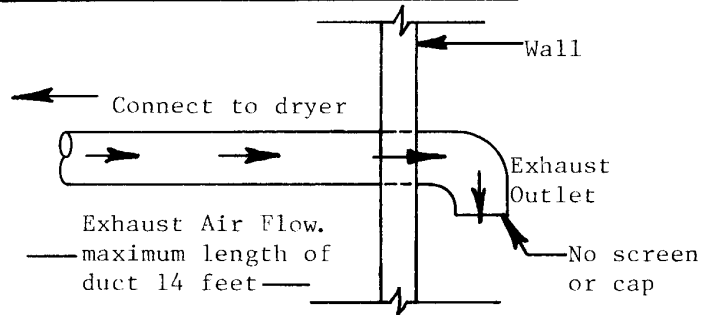
1. Trap each dryer individually. Always keep the trap clean and in good working condition.
2. When dryer is on the end of a line of equipment extend header at least 4 feet beyond dryer. Install globe valve, union, check valve and by-pass trap at end of line. If gravity return to boiler, omit trap.
3. Insulate steam supply and return line for safety of operator and safety while servicing dryer.
4. Keep dryer in good working condition. Repair or replace any worn or defective parts.

# EXHAUST DUCT INSTALLATION

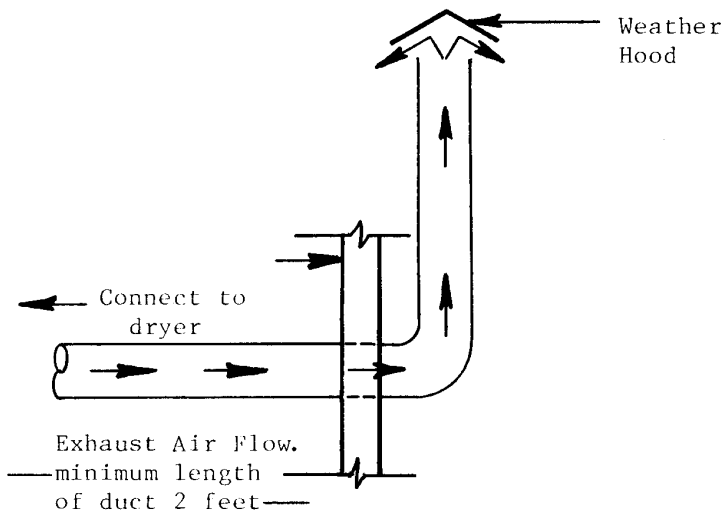
**Caution:**

Never connect elbow on dryer exhaust. Always have a minimum of 2 feet of straight duct then the elbow.

No more than 2 elbows.



## HORIZONTAL EXHAUST INSTALLATION



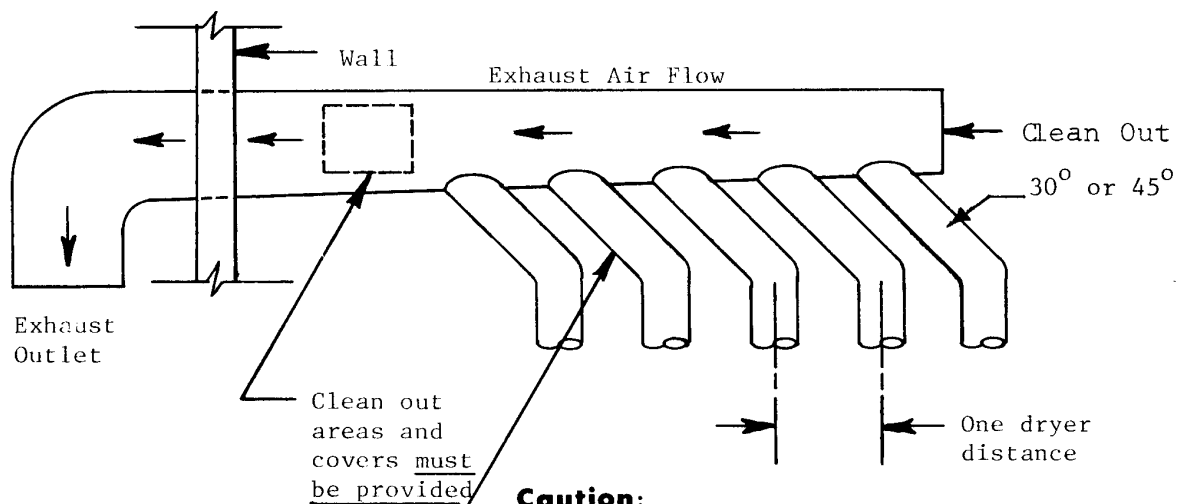
**Caution:**

Recommend maximum dryer exhausting- 14 feet of straight duct and 2 elbows for every 10 foot length; increase duct size 1 inch diameter.

**Caution:**

The exhaust air should not be vented into a wall, a ceiling, or a concealed space of a building.

## VERTICAL EXHAUST INSTALLATION



**Caution:**

Dryer exhaust must meet main duct at 45° or 30° in direction of air flow. Multiple exhausting must never be 90° angle into main duct.

## MULTIPLE HORIZONTAL EXHAUST INSTALLATION

## DRYER AIR FLOW INSTALLATION

Nothing is more important than air flow for the proper operation of a clothes dryer. A dryer is a pump which draws make-up air from the out-of-doors, through the heater, through the clothes and then forces the air through the exhaust duct back to the out-of-doors. Just as in a fluid water pump, there must be a fluid air flow to the inlet of the dryer if there is to be the proper fluid air flow out of the exhaust duct. In summary, there must be the proper size out-of-doors inlet air opening (4 to 6 times the combined areas of the air outlet) and an exhaust duct size and length which allows flow through the dryer with no more than 0.3 inches water column static pressure in the exhaust duct.

Energy-saving dryer models require less inlet air area and smaller exhaust ducts than the regular dryers because there is about half as much air flow through the dryer. However, the importance of the proper inlet air area and the correct exhaust duct size is twice as important on energy saving models. The huge savings of an energy-saver dryer is offset only by the attention required to provide the proper air flow. Once this proper air flow is provided, it lasts for the life of the installation.

### CISSELL WILL PROVIDE FREE ENGINEERING ADVICE FOR ANY SPECIFIED INSTALLATION.

In some instances, special fans are required to supply make-up air and/or boost exhaust fans are required for both regular and energy saving models.

#### EXHAUSTING DUCT

For best drying:

1. Exhaust duct maximum length 14 feet of straight duct and maximum of two 90 degree bends.
2. Use 45° & 30° elbows wherever possible.
3. Exhaust each dryer separately.
4. Use 2 feet of straight duct on dryer before installing an elbow.
5. Do not install wire mesh or other restrictions in the exhaust duct.
6. Use clean-outs in the exhaust duct and clean periodically when needed.
7. Never exceed 0.3 inches water column static pressure in the exhaust duct.
8. Inside surface of the duct must be smooth.
9. Recommend pop rivets for duct assembly.

#### MAKE-UP AIR

For best drying:

1. Provide opening to the out-of-doors in accordance with the following:  
C & K Models - 200 to 300 sq. in.  
per dryer  
F & R Models - 100 to 150 sq. in.  
per dryer
2. Use barometric shutters in the inlet air opening to control air when dryers are not running.

#### Other Recommendations

To assure compliance, consult local building code requirement.

FOR HELP, consult Cissell Engineering on tough installations.

Trouble shooting; hot dryer surfaces, scorched clothes, slow drying, lint accumulations, or air switch mal-function are indicators of exhaust duct and/or make-up air problems.

## OPERATING INSTRUCTIONS

- Step 1. After loading the dryer tumbler with the washed clothes load, proceed to close the loading door.
- Step 2. A. Timer Models - Turn timer knob to the desired drying time. See fig. 1

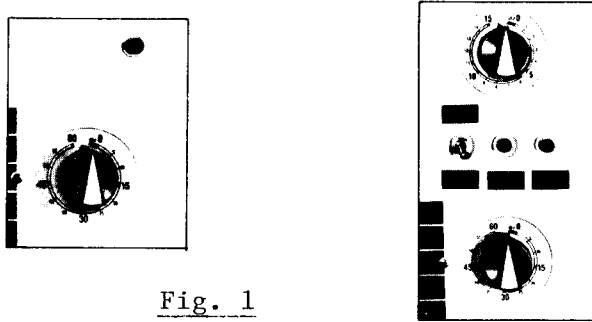
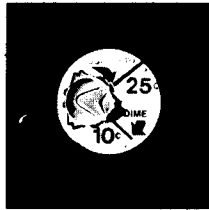
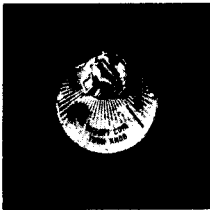


Fig. 1

- B. Coin Meter Models - Insert proper coin in correct slot. Turn knob completely until it stops for desired drying time.



1. INSERT PROPER COIN IN CORRECT SLOT.
2. MUST, FULL TURN KNOB CLOCKWISE.
3. FULL TURN KNOB AFTER EACH COIN IS INSERTED.

- Step 3. Temperature Selector - Select temperature per type of load being dried in the dryer.
- High heat - mixed and heavy fabrics - 180°F. exhaust temperature  
Normal - cottons and linens - 170°F. exhaust temperature  
Permanent Press - poly knit synthetic-blends-light weight fabrics.  
160° exhaust temperature  
Low Heat - delicate-sheer fabrics-easy to dry-140 °F. exhaust temperature.
- Step 4. Turn switch to "on" position if dryer is equipped with "on-off" switch.

Step 5. Push in "Push to Start" button until the dryer starts running and then release button.

What is happening after step 5:

1. The fan motor will operate.
2. The clothes tumbler will revolve.
3. The heated energy-gas-electric-steam will be energized.
4. The heated air will mix with the water washed clothes to evaporate the moisture from the garments.
5. The thermostats will function at a safe temperature at the end of the drying cycle.
6. The heat will be shut off and the motor will continue to run to cool the dry load to a desired handling temperature.

IMPORTANT: If tumbler door is opened during the drying cycle, it stops the fan motor and the heated energy is shut off. To restart the dryer, close the door and press in the "Push to Start" button for approximately three seconds.

IMPORTANT: The light will stay on until the therm-o-cool thermostat cools below 135<sup>o</sup>F. before the contacts open to shut off dryer. This is only on "Therm-O-Cool" models.

IMPORTANT: On coin meter models only, see the label for information.

IMPORTANT: This dryer is designed for a capacity maximum load. Overloading it will result in long drying time and damp spots on some clothes.

IMPORTANT: Maximum operating efficiency is dependent upon proper air circulation. The lint screen must be kept clean daily to insure proper air circulation throughout the dryer.

IMPORTANT: This is a commercial dryer. It has keys to open the lower lint area panel and the upper control and burner area panel. This is equipped for the user's safety.

COOL-DOWN: Cissell Dryers with one timer are furnished with Therm-O-Cool which reduces heat in the basket through temperature control, rather than by time. Time limit of this cool-down is flexible--requiring whatever period is necessary to reduce the load to a satisfactory cool state.

Cool-down immediately follows the drying cycle, to minimize wrinkling and reduce heat in the basket for more comfortable unloading.

Cissell coin-meter and double timer dryer models have a timed cool-down.

1. The coin-meter cool-down period is controlled internally.
2. The two timer model permits operator/customer to set cool-down manually to a predetermined period ranging from 0 to 15 minutes.

## TWO TIMER MODEL OPERATING INSTRUCTIONS

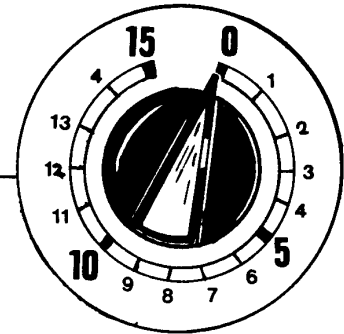
- STEP 1 After loading the dryer tumbler with the water washed clothes load, proceed to close the loading door.
- STEP 2 Turn the 60 minute drying timer to the desire drying time. The drying cycle light will be on and indicate the drying. The light shuts off when drying time is complete. See Fig. 1.
- STEP 3 Turn the 15 minute cooling cycle timer to the desired cool down time. After the drying cycle is completed, then the cooling cycle time will automatically operate. The cooling light will be on and indicate the cooling of the clothes load. The light shuts off when cooling time is completed. See Fig. 1.
- STEP 4 Temperature Selector - Select temperature per type of load being dried in the dryer.  
High Heat - Mixed and heavy fabrics - 180<sup>o</sup>F. exhaust temperature.  
Normal - Cottons and linens 170<sup>o</sup>F. exhaust temperature.  
Permanent Press Heat - Poly knit snythetic-blends-light weight fabrics, 155<sup>o</sup>F. exhaust temperature.  
Low Heat - Delicate-sheet fabrics-easy to dry, 140<sup>o</sup>F . exhaust temperature.
- STEP 5 Turn switch to "on" position if dryer is equipped with "on-off" switch. See Fig. 1.
- STEP 6 Press in "Push to Start" button (approximately 2 seconds) until the dryer starts running and then release button.
- What is happening to the drying operation?
1. The fan motor will operate.
  2. The clothes tumbler will revolve.
  3. The heated energy-gas-will be energized.
  4. The heated air will mix with the water washed clothes to evaporate the moisture from the garments.
  5. The thermostats will function at a safe temperature at the end of the drying cycle.
  6. The heat will be shut off and the motor will continue to run to cool the dry load to a desired handling temperature.
- STEP 7 At the end of the cool down cycle the clothes load is dry.
- STEP 8 To shut the dryer off and the electricity off from the dryer, turn the "On & Off" switch to "Off" position. This switch is a safety switch to immediately stop the dryer's operation.

# TIME and TEMPERATURE Control Panel

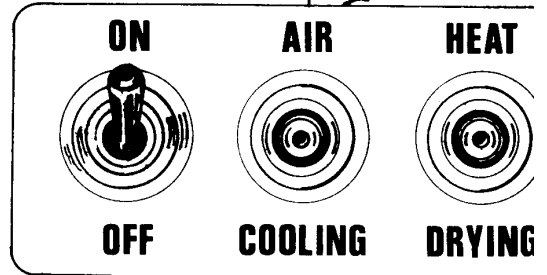
**Fig. 1**

LIGHT WILL INDICATE  
AIR DRYING 15 MINUTES

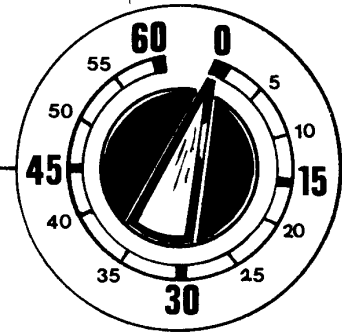
LIGHT WILL INDICATE  
HEAT DRYING  
60 MINUTES



TU8418

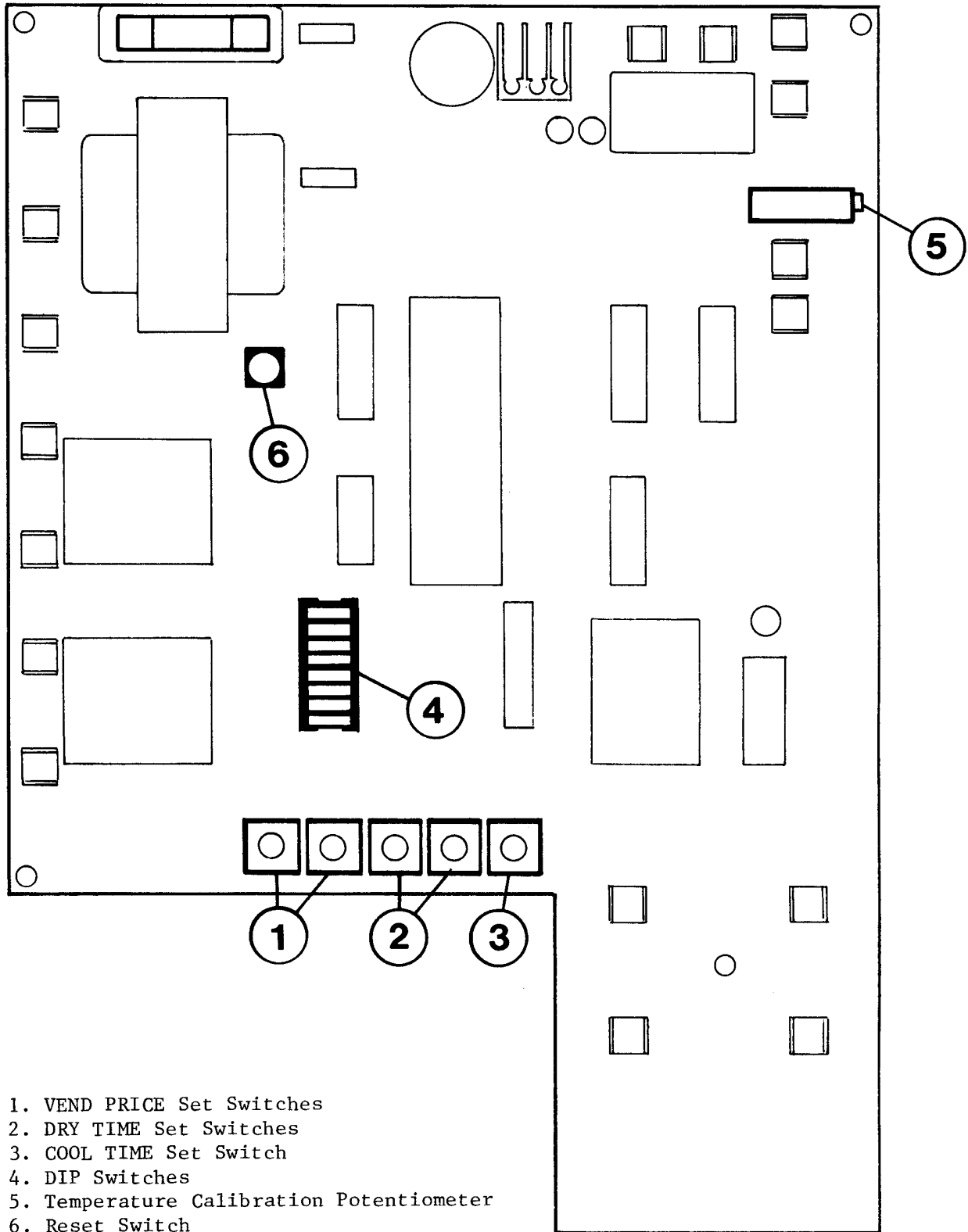


HIGH HEAT	MIXED LOADS HEAVY FABRICS HARD TO DRY	
NORMAL	COTTONS LINENS	
PERM PRESS POLY KNIT	PERMANENT PRESS SYNTHETIC-BLENDS LIGHT WEIGHT FABRICS	
LOW HEAT	DELICATE SHEER FABRICS EASY TO DRY	
PUSH	TO START	



Important: This is a commercial dryer. It has keys to open the lower lint area panel and the upper control and burner area panel. This is equipped for the user's safety.

# PROMPTER™ CONTROL BOARD SWITCHES



1. VEND PRICE Set Switches
2. DRY TIME Set Switches
3. COOL TIME Set Switch
4. DIP Switches
5. Temperature Calibration Potentiometer
6. Reset Switch

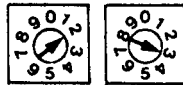


INSTRUCTIONS FOR SETTING SWITCHES ON THE PROMPTER CONTROL BOARD  
COMMERCIAL USE ONLY

1. VENDOR PRICE Set Switches - Not applicable for commercial use.

2. DRY TIME Set Switches- These two switches determine how many minutes are in the drying cycle. The left switch is divided into increments of 10 minutes and the right switch is divided into one minute increments.

Example: To set 23 minutes:



Note: "00" denotes 99 min.  
 $20 + 3 = 23$  minutes  
 (2x10) (1x3)

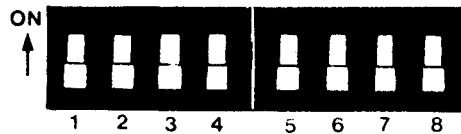
3. COOL TIME Set Switch- This switch determines the maximum minutes in the cooling cycle. It can be set from 0 - 18 in 2 minute increments.

Example: To set 14 minutes



4. DIP Switches- These switches numbered 1-8 denote various functions of the control panel. Only switches 1-6 are operational, 7 & 8 are not. If two or more switches are on at a given time, the highest number switch is given precedence. The functions of the switches in the on position are as follows:

- 1. Commercial (non-coin) operation
- 2. Auto dry off
- 3. Display even dollars accumulated
- 4. Display dry time setting
- 5. Display cool time setting
- 6. Display temperature
- 7. No function
- 8. No function



5. Temperature Calibration Potentiometer- Factory set.

6. Reset Switch- resets control panel back to start position.

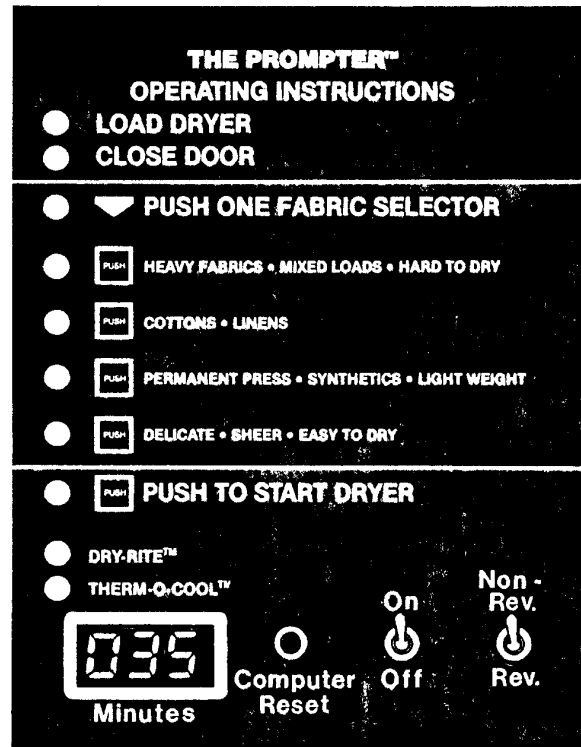
SET UP PROCEDURE FOR THE "PROMPTER" COMMERCIAL (NON-COIN) OPERATION

1. Read instructions for Setting Switches on the Prompter Control Board and refer to the illustration.
2. Turn on/off switch to on position.
3. Set DIP Switch #1 to "on" for commercial use.
4. This dryer can be set for a Timed Dry Cycle or an Automatic Dry Cycle (with a moisture sensor to determine when load is dry.) For the Timed Dry Cycle, set the DIP Switch #2 to "on". For the Automatic Dry Cycle, Set DIP Switch #2 to "off".
5. Adjust "Dry Time Set Switch" for desired time in Timed Cycle or maximum dry time in Automatic Dry Cycle. Set DIP Switch #4 to "on" to display the set time and to "off" after correctly adjusting.
6. Adjust "Cool Time Set Switch" for desired time in Timed Dry Cycle or maximum cool time in Automatic Cycle. Set DIP Switch #5 to "on" to display the set time and to "off" after correctly adjusting.
7. Before operating dryer, check:
  - For Automatic Dry Cycle - DIP Switch #1 "on"  
DIP Switch #2-6 "off"
  - For Timed Dry Cycle - DIP Switch #1 & 2 "on"  
DIP Switch #3 - 6 "off"

## PROMPTER OPERATING INSTRUCTIONS- COMMERCIAL MODELS

This dryer has a Control Panel with lights that will blink on and off to tell the operator what to do next, step by step.

1. Read the "Set Up Procedure" before operating the dryer.
2. Turn the On/Off switch to On.
3. Load the dryer with water washed clothes and close the dryer door.
4. Push One Fabric Selector for the appropriate type of load to be dried. This setting may be changed at any time during the cycle by pushing another selection. The corresponding lamp will remain on during the cycle.
5. Push To Start will begin the drying cycle.
6. Dry Rite lamp will come on and the drying will begin. The lamp will stay lit until the expiration of the pre-set drying time (Timed Dry) or until the load is dry (Automatic Dry) which is determined by the moisture sensor.
7. Therm-O-Cool lamp will come on after the drying cycle is completed and will remain lit for the duration of the pre-set cooling time or until the temperature drops to 135°F.
8. Minutes (digital display) With the dryer in the Timed Dry Cycle, the display will show the total number of minutes at the beginning of the dry cycle and will count down in one minute intervals as the dryer runs. With the dryer in the Automatic Dry Cycle, the display shows "000" minutes at the beginning of the cycle and will count up as the dryer runs.
9. Computer Reset- use to reset the control panel to "start" position.
10. Reversing/ Non-Reversing- Reversing is designed for loads that may tangle (bed sheets, large items, etc.). Non-Reversing is designed for loads that may not tangle (small or medium size items).



## RULES FOR SAFE OPERATION OF YOUR CISSELL DRYER

1. Be sure your dryer is installed properly in accordance with the recommended instructions.
2. CAUTION: Be safe - shut main electrical power supply and gas supply off externally before attempting service.
3. CAUTION:
  - a. Never use drycleaning solvents: gasoline, kerosene, or other flammable liquids in the dryer. Fire and explosion will occur.
  - b. Never put fabrics treated with these liquids into the dryer.
  - c. Never use these liquids near the dryer.
  - d. Always keep the lint screen clean.
  - e. Never use heat to dry items that contain plastic, foam or sponge rubber, or rags coated with oils, waxes or paints. The heat may damage the material or create a fire hazard. Rubber easily oxidizes causing excessive heat and possible fire. Never dry the above items in the dryer.
4. Never let children play near or operate the dryer. Serious injury will occur if a child should crawl inside and the dryer is turned on.
5. Never use dryer door opening and top as a step stool.
6. Read and follow manufacturer's instructions on packages of laundry and cleaning aids. Heed any warnings or precautions.
7. Never tumble fiberglass materials in the dryer unless the labels say they are machine dryable. Glass fibers break and can remain in the dryer and could cause skin irritation if they become mixed into other fabrics.
8. Reference - Lighting and shutdown instructions and wiring diagrams are located on the rear wall of the dryer cabinet.

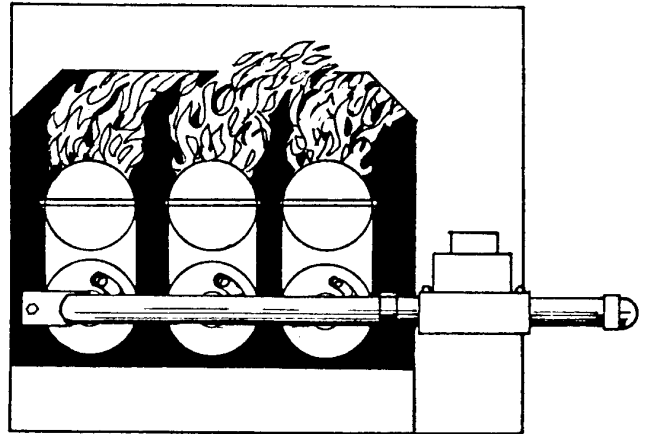
### ENERGY SAVING TIPS:

1. Install dryer so that you can use short, straight venting. Turns elbows and long vent tubing tend to increase drying time. Longer dry time means the use of more energy and higher operating costs.
2. Operate dryer using full-size loads. Very large loads use extra energy. Very small loads waste energy.
3. Dry light weight fabrics separately from heavy fabrics. You will use less energy and get more even drying results by drying fabrics of similar weight together.
4. Clean the lint screen area daily. A clean lint screen helps give faster, more economical drying.

## BURNER AIR INLET SHUTTERS ADJUSTMENT

Burners Air Inlet Shutters are correctly adjusted when the flame is primarily blue.

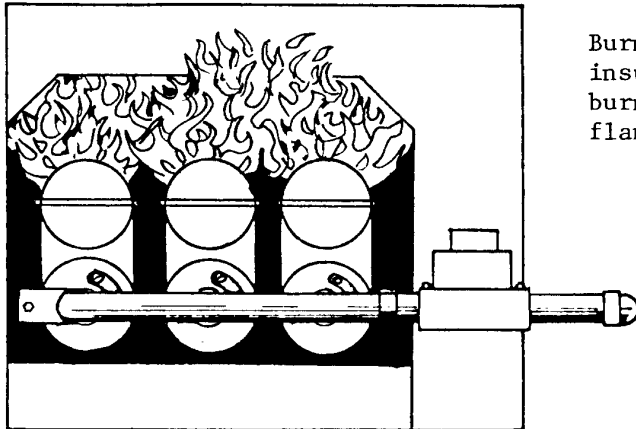
TYPE OF GAS	BURNER AIR INLET SHUTTERS ADJUSTMENT
Natural gas	1/2 Open
Liquid Petroleum	1/4 Open
Manufactured gas	1/16 Open



RIGHT

### Air Shutters Adjustment

Proper Method: Close air shutters to yellow tip, then open air shutters to blue flame tip. Orange tips are impurities in the air such as lint, dust, etc.

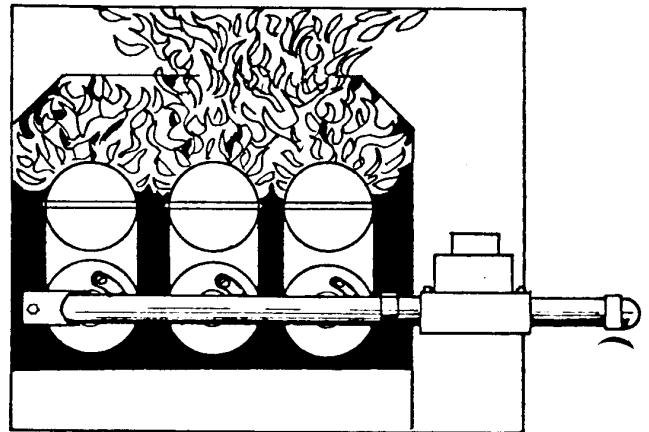


Burners Air Inlet Shutters are adjusted insufficient, air is admitted through the burner. Flame pattern is straight up and flame is yellow.

WRONG  
NEED TO ADJUST SHUTTER

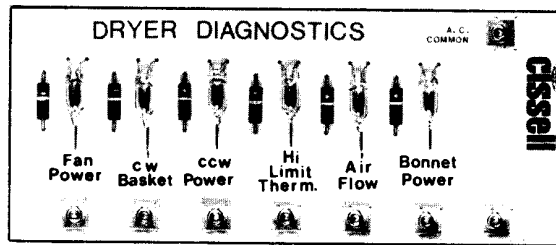
This flame pattern indicates the Burner Air Inlet Shutters are correctly adjusted, but air through the dryer is insufficient. This condition indicates excessive lint in the lint compartment, lack of make-up air in the room, restricted exhaust duct, or a vacuum in the room caused by a exhaust fan.

WRONG  
NEED TO PROVIDE CORRECT  
AIRFLOW THROUGH THE DRYER



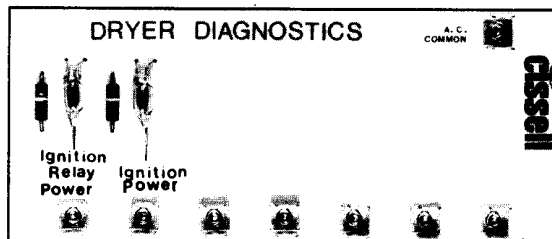
## DRYER DIAGNOSTICS

This Prompter Dryer is equipped with two Dryer Diagnostic circuit boards, upper and lower, which are located in the control box in the front of the dryer behind the control panel. The lamps are a valuable aid in detecting problems in the dryer. The functions of the two boards are outlined below:



### UPPER DIAGNOSTIC BOARD

1. Fan Power - indicates the power to the fan is on.
2. Basket Power - indicates power to the basket motor is on for either reversing/non-reversing operation (clockwise or counterclockwise rotation).
3. Hi Limit Thermostat - indicates the safety thermostat is closed, which is the first element in the safety control circuit.
4. Air Flow - this lamp glows when the air flow switch is closed; the lamp blinks if the air flow switch is fluttering. Power is available to the control thermostats when the air flow switch is closed.
5. Bonnet Power - this lamp glows when a control thermostat circuit is closed and whenever the timer is not in the cool-down cycle.



### LOWER DIAGNOSTIC BOARD

1. Ignition Relay Power - this lamp will glow when the ignition relay coils is energized. This lamp is the key to trouble shooting the ignition components. First, when the radiant sensor is cool, the lamp indicates the radiant sensor switch is closed and that the normally closed (NC) contacts of the relay are now open and that the normally open (NO) contacts are now closed, which indicates that the relay coil is o.k. and operating. At this time, when the radiant sensor is cool, the igniter should be glowing and the Ignition Power lamp should be lit. Second, when the radiant sensor is hot, the lamp indicates that the NO contacts of the relay are now closed and power is available for the operating gas valve. At this time, when the radiant sensor is hot, the operating gas valve should be energized and the gas should be burning.
2. Ignition Power - this lamp indicates the power is flowing to the igniter through the radiant sensor and the igniter should be glowing red hot. If this lamp is not lit, and the Ignition Relay Power lamp is lit, then the gas should be burning which means that the operating gas valve has been energized by means of a circuit through the non-glowing igniter.

TRUBLE SHOOTING CHART--GAS, STEAM, AND ELECTRIC DRYERS

TROUBLE	CAUSE	REMEDY
Motors will not start	No Power	Check fuses on circuit breakers. Make sure main control switch is <u>on</u> .
	Incorrect power	Check power source; voltage, phase, and frequency must be the same as specified on electrical rating plate.
	Time off	Turn timer clock wise to desired time setting.
	Loose wiring connections	Check wire connections in electrical box on rear of Dryer.
	Defective starting relay	Check coils and contacts.
Motor tripping on thermal overload	Low voltage	Check voltage at motor terminals. Voltage must be within (plus or minus) 10% of voltage shown on motor rating plate--it not, check with local power company for recommended corrective measures.
	Inadequate wiring	Check with local power company to insure that wiring is adequately sized for load.
	Loose connections	Check all electrical connections and tighten any loose connections.
	Inadequate air	Check installation sheet in service manual for recommended make up air openings.
	Poor housekeeping	Clean lint accumulation on and around motors.
Basket motor will not run	Loading door open	Close door.
	Door switch out of adjustment	Adjust switch by removing cover and bend actuator lever to clear switch button 3/8" with cover in place.
	Defective door switch	Replace switch.
	Defective basket motor contactor	Replace contactor.

TROUBLE	CAUSE	REMEDY
Basket motor runs, but basket will not revolve	V-Belt Broken	Replace V-Belt.
	V-Belt Loose	Adjust Belt Tension.
	Motor pulley loose	Tighten set screw.
	Basket overloaded	Remove load.
Dryer noisy or vibrating	Not leveled	Check manual for proper leveling procedures.
	Fan out of balance	Accidental damage to the fan blade can change the dynamic balance. Damaged fans should be replaced.
	Basket rubbing	Adjust basket clearance.
	V-Belt sheaves	Tighten set screws, make sure sheaves are in proper alignment.
	Belt	Adjust belt tension.
	Foreign objects	Occasionally screws, nails, etc. will hang in the basket perforations and drag against the sweep sheets surrounding the basket. Such foreign objects should be removed immediately.
Dryer runs but no heat	Incorrect voltage	Check for correct control voltage - 120V.
	No voltage	Check power supply, check secondary voltage on transformer and check wiring and wiring diagram.
	Silicon carbide igniter will not glow - red	Broken or defective igniter--replace. Check for 120 volts to igniter.
	Light red silicon carbide igniter	Check for 3.5 minimum amperage. Low amperage not hot enough. Low Voltage
	Defective igniter time delay relay	Replace relay.
	Lint door open	Close lint door.
	Defective gas valve	Replace coil assembly.
	Gas turned off	Turn manual gas valve "on."

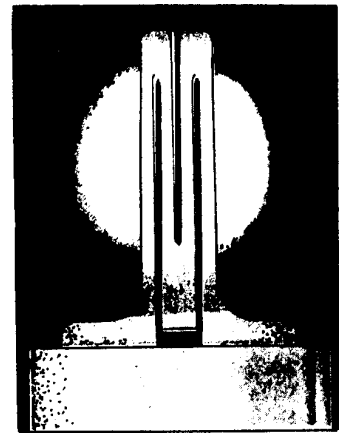


TROUBLE	CAUSE	REMEDY
Dryer runs but no heat		
	Defective door switch	Replace door switch.
	Silicon carbide igniter not igniting gas	Must be 3/16 to 5/16 above burner, Replace radiant sensor
	Air switch not operating	Clean out lint compartment daily. Check back draft damper for foreign objects, lint accumulation or other causes that may prevent damper from opening. Check duct work for lint build-up. Check installation sheet to insure that duct work and make up air openings are adequately sized. Check exhaust outlet. If a screen has been improperly installed on the outlet, it may be clogged with lint or frozen over in winter. Never install a screen on the exhaust outlet. Vacuum within dryer drops to .09 inches of water column, or less, for normal operation of dryer, vacuum reading (in inches of water column) should range between .15 and .3 inches. Vacuum reading can be made with a vacuum U-gauge by removing a sheet metal screw in the front panel of dryer, and inserting the rubber tube of the vacuum gauge into screw opening.
	Air switch out of adjustment	See air switch adjustment sheet in service manual.
	Air switch defective	Replace air switch.
	Gas pressure too low	Check manifold pressure and adjust to pressure specified on rating plate. If this pressure cannot be obtained, have gas supplier check main pressure.
	Improper orifice	Dryer is orificed for type of gas specified on rating plate. Check with gas supplier to determine specifications for gas being used. If different from rating plate, contact factory and obtain proper orifices.
	Electric power to heating unit turned off	Turn power on.
Line fuse or heater circuit fuse blown to unit	Replace fuse.	

TROUBLE	CAUSE	REMEDY
Dryer runs but no heat	Defective relay	Replace relay.
	Defective electric elements	Replace elements.
	Defective thermostat	Replace thermostat.
	Defective safety overload thermostat	Replace thermostat.
	Lint compartment door open	Close door.
Main burners burning <b>improperly</b>	Burner air shutters closed	Open for blue flame.
	Dirt in burner	Blow out.
	Gas pressure too high	Check rating plate for correct gas pressure.
	Orifice too large	Send to factory for correct orifices.
	Restricted or blocked exhaust	Clean exhaust.
Main burner cycling on and off	Radiant sensor	Replace
Low gas flame or high gas flame	Incorrect main burner orifices	Replace orifices--check factory for correct size.
Dryer too hot	Incorrect main burner orifice	Replace orifices--check factory for correct size.
	Inadequate make-up air	Make up air must be 4 to 6 times the exhaust area of the dryer.
	Lint accumulated	Remove lint.
	Exhaust duct dampers	Must be full open or replace.
	Gas pressure too high	Adjust gas pressure as specified on rating plate.
	Partially restricted or inadequately sized exhaust system	Check installation sheet in service manual for recommended sizes. Check for and remove obstructions or lint build up from duct work. Never use smaller size exhaust duct. Always use larger size exhaust duct.
	Defective thermostat	Replace thermostat.

TROUBLE	CAUSE	REMEDY
Dryer does not stop at end of time period (6)	Defective timer	Replace timer.
Dryer runs no steam to coils	Valve closed	Check all valves in steam supply and return--make sure they are open.
	Steam trap blocked	Remove and clean. Replace if defective.
	Solenoid valve	On dryers using solenoid temperature control, check operation of solenoid valve by advancing thermostat.
	Thermostat	On dryers using solenoid temperature control, thermostat controls operation of solenoid valve. If defective, replace thermostat.
	Check valve installed incorrectly	Check for inlet and outlet marking on check valve, and invert if necessary.
	Strainer clogged	Remove plug and blow down strainer or remove and clean thoroughly if heavily clogged.
Water in steam line	Steam piping installed incorrectly	Check piping per steam installation in instructions.
	Trap not functioning	Check trap for size and capacity. If dirty and sluggish, clean thoroughly or replace. Check return line for high back pressure, or another trap charging against the trap functioning improperly.
Basket does not reverse	Reversing timer	Check timer to see if operating.
	Reversing timer	Adjust timer (See Furnas control sheet)

# The **NEW Cissell** Silicon Carbide Ignition System



- New radiant sensor.
- TWO gas valves and pressure regulator provide additional safety.
- New igniter
  - Combines unique HIGH PHYSICAL and THERMAL Strength with stable electrical properties.
  - Can be relied upon to give premium performance at operating temperatures up to 2600° F and respond on command.
  - Clean, straightforward design insures easy handling, minimum chance of breakage; dependable, trouble-free operation.

Cissell's NEW Silicon Carbide Ignition System is better than ever!

- More reliable
- Less costly to replace
- Easier to service

Cissell's system reduces gas consumption 6% on the average over dryers with standing pilots based on 40-hour per week usage. There's no standing pilot to burn constantly; no electronic pilot to consume gas before burner ignites. . . either/both of which add high energy costs to your operation.

CISSELL's silicon carbide ignition system saves you up to 53% (dependent upon model dryer and other factors) additional gas costs over certain previous Cissell and competitive dryers of the same type WITHOUT sacrificing drying rate! A MUST — in times of fuel shortages/high costs.

*LOOK TO CISSELL for better energy-saving features!*

**The NEW Silicon Carbide Ignition System is the latest HOT NEWS from Cissell!**

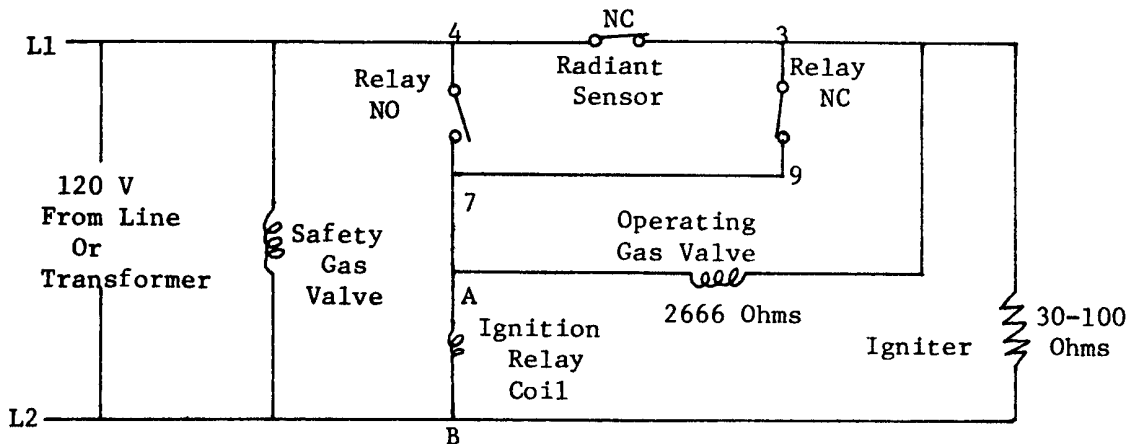
  
ASK YOUR DISTRIBUTOR

## OPERATION OF THE NEW NORTON SILICON CARBIDE IGNITION SYSTEM

Power to the ignition system is 120 volts. It is rated voltage or on higher voltage machines the 120 volts is from a transformer. The ignition system is powered through a timer or coin meter and a thermostat which calls for heat.

The two gas valves are plumbed into a single gas line and both must open before the gas can flow into the burners.

The following diagrams are line to line schematics of the ignition system. The numbers 4, 7, 3, 9, and letters A and B are terminals on the ignition relay which serves as a terminal board for the system.

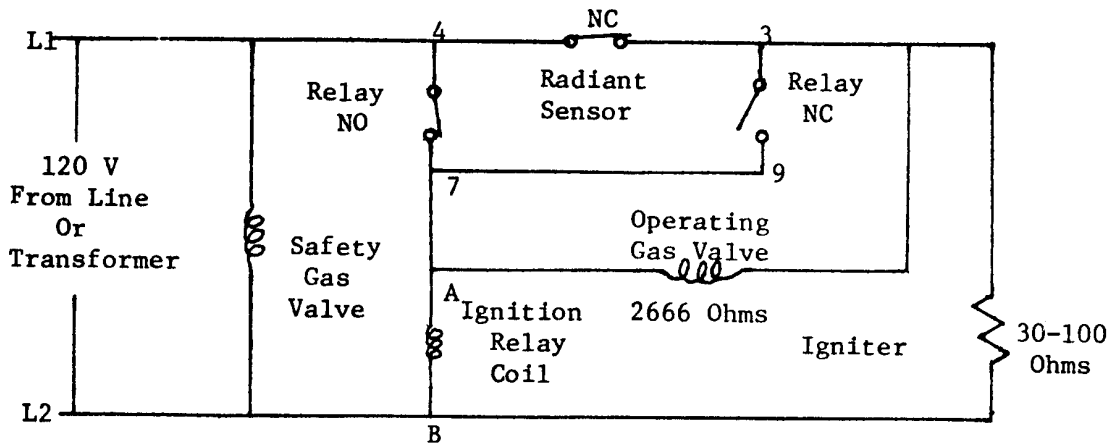


### NEW NORTON SILICON CARBIDE IGNITION SYSTEM

Fig. 1 (Start of Cycle)

Step #1 (Start of Cycle), see Fig. 1

- a. The safety gas valve is connected across the lines and opens immediately as soon as a need for heat is indicated by the thermostat.
- b. The ignition relay coin is energized through the normally closed (NC) contacts of the radiant sensor and the NC contacts of the relay. Note! Fig. 1 shows the electrical circuit of the relay just before it is energized. Fig. 2 shows the circuit a moment later.
- c. The igniter is energized through the NC contacts of the radiant sensor.
- d. The operating gas valve is connected such that the same 120 volts is applied to both sides of the gas valve and the valve stays closed.

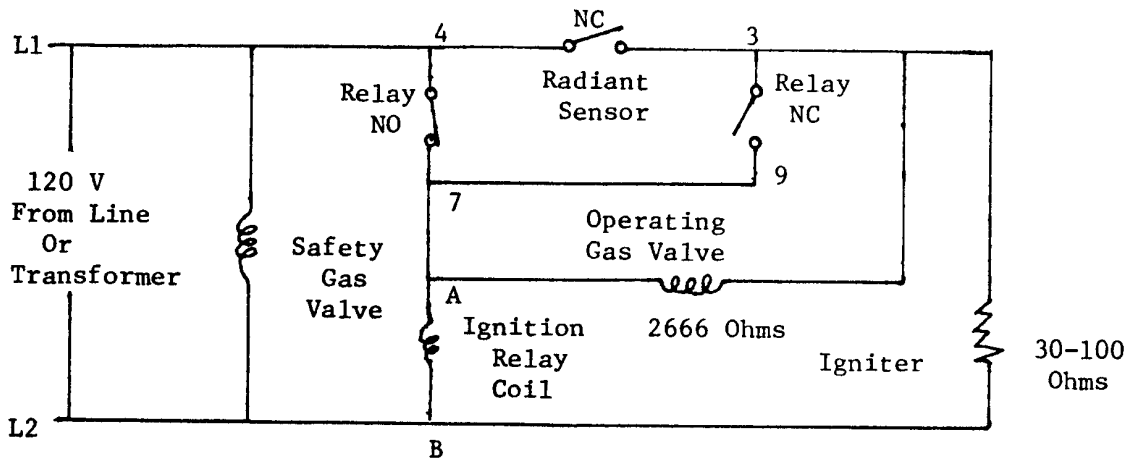


NEW NORTON SILICON CARBIDE IGNITION SYSTEM

Fig. 2 (An Instant Later)

Step #2 (A moment after Step #1), see Fig. 2

- a. The ignition relay closes now and the relay coil stays energized by being powered through the normally open (NO) contacts of the ignition relay which close before the NC contacts open.
- b. The operating gas valve still has the 120 volts applied to both sides of the gas valve and the valve stays closed.



NEW NORTON SILICON CARBIDE IGNITION SYSTEM

Fig. 3 (About 20 Seconds Later)

Step #3 (About 20 seconds after Step #2), see Fig. 3

- a. The igniter glows red hot which causes the radiant sensor to open its NC contacts which de-energizes the igniter.
- b. As the radiant sensor NC contacts open, the 120 volt to one side of the operating gas valve coil is removed and an electrical circuit is formed through the NO contacts of the inition relay,

through the gas valve and through the igniter; and the gas valve opens. The relatively low resistance of the igniter allows nearby full voltage to be applied to the operating gas valve and nearby zero voltage to the igniter and the igniter is de-energized for all practical purposes.

- c. As the raw gas flows against the red hot igniter, ignition takes place. The radiant gas flame replaces the radiant glowing of the igniter and the radiant sensor NC contacts remain open.

The flame will burn until the thermostat opens the circuit or until the time on the timer or coin meter expires.

The following summarizes the ignition operation.

Start machine drying cycle. Carbide igniter will get red hot. Then gas valve will open. The gas burners are ignited by the carbide igniter. Igniter will shut off and burners will remain on during drying cycle.

Opening tumbler door will cause gas to extinguish. Shut door and gas will not light until flame sensor cools and normal ignition cycle begins.

Note! Push start switch after door is shut.

If gas does not light, then the sensor will cool down and restart the ignition cycle.

### Safety Features

#### Power Interruptions During Burning of the Gas

Both gas valves are de-energized and the gas is shut off. The ignition relay is also de-energized and returns the contacts to the NO and NC positions. Even with resumption of power, the operating gas valve stays closed until the NC contacts of the radiant sensor close (about 30 seconds from time of power interruption). A normal ignition cycle begins at this time.

#### Burner Doesn't Light Because of Low Voltage or Low Gas Pressure

The operating gas valve will be energized for about 30 seconds and then the NC contacts of the radiant sensor will be closed. 120 volts is applied to both sides of the operating gas valve and it closes to shut off the gas. A normal ignition cycle begins at this time.

## NORTON IGNITION SYSTEM

### Test Procedure

1. Glow bar will glow red. If glow bar does not glow red, then check the following:
  - a. Disconnect glow bar wiring from dryer. Test with separate 120 volt. Replace if it does not glow red.
  - b. Also replace glow bar if cracked, broken or does not light burner in 25 seconds.
2. Unit must be wired correctly.
  - a. Front gas valve must always be wired to "A" and "3" on the relay.
  - b. Side or rear gas valve must be wired to "B" and "4" on the relay.
3. Rear or side gas valve must open (click) when dryer is energized.
4. Front gas valve will open and gas will flow to burners after 12 to 25 seconds, when glow bar is glowing red. Red glow bar will light gas from burners.
5. Glow bar will go out when flame is burning.
  - a. If both gas valves do not open (click), then replace.
  - b. If unit does not operate correctly, then replace the relay.
  - c. If glow bar does not shut off, then replace radiant sensor. Also if the radiant glass is broken, replace.

### Parts In Norton Ignition System Unit:

6. Norton Glow Bar - TU8596.  
Ignition Radiant Sensor - TU8598.  
Ignition Relays - TU8599.  
Two Gas Valves - TU6557.  
Wiring Diagram - TWL679
7. Open and close loading door after gas is burning and glow bar is shut off. Gas should not flow when door is reclosed until radiant sensor has cooled and glow bar recycles.

### TROUBLESHOOTING ON EACH NORTON IGNITION PART

- A. Glow bar TU8596
  1. No glow bar red: Check voltage (120 volt).  
Cracked or broken, replace.  
Check wiring TWL679 Must be connected to No. "B".  
and No. "3" on relay.
- B. Radiant Sensor TU8598
  1. No glow bar red: Contacts failed open position, replace.  
Sensor N.C. (cold position).  
Sensor open (hot position).  
Glass broken, replace.
  2. Fails to open after 25 seconds: Low voltage on glow bar.  
Not in correct location.  
Glass broken, replace.  
Failure of contacts to open, replace.



- C. Relay (Igniter) TU8599
1. Front gas valve does not turn on: Relay is wired incorrectly - see TWL679.  
Relay solenoid not operating.  
Relay contacts not operating correctly.
  2. Relay contacts should make before break - when the relay coil is energized, the contacts "4 & 7" should close before contacts "3 & 9" open.
- D. Gas Valve TU6557
1. If valve does not open when 120V is applied to it, then replace the coil assembly TU3832 (120V).
  2. The two gas valves must be wired correctly TWL679. Front gas valve wires connected to "A and 3" on relay. Side or rear gas valve wires connected to "B and 4" on relay.

INSTRUCTIONS FOR THE DIRECT  
IGNITION SYSTEM OPERATION

1. Turn on manual gas valve, handle should be parallel with gas line.
2. Start machine's drying cycle. Carbide igniter will get red hot, then gas valve will open. The gas burners are ignited by the carbide igniter. Igniter will shut off and burners remain on during heat cycle.
3. Opening tumbler door will cause gas to extinguish. Shut door and gas will not flow until flame sensor cools and normal cycle begins.  
NOTE! Push start button after door is closed.
4. If gas does not light, the sensor will cool down and restart the ignition cycle.
5. To shut off dryer, turn off manual gas valve. Handle should be at right angle to pipe. Turn off main electrical supply switch.
6. A five minute complete shutoff period prior to reignition attempts should initial attempts fail.

CAUTION: Check all Norton Igniters with 120V before installing on dryer.

TROUBLE ANALYSIS FOR ENERGY SAVER DRYERS AND  
THE ELECTRONIC SILICON CARBIDE GAS IGNITION SYSTEM

CAUTION: Problems with the electronic silicon carbide ignition can also be the result of the following.

1. Exhaust air flow restriction. Exhaust pipe size must be larger than the exhaust opening. Refer to chart in manual.
2. Dryer inlet air is a must for each unit. It must be 4 to 6 times the combined areas of the dryer exhaust outlet. Refer to chart in manual.
3. All dryer panels must be in place and on machine for proper operation.
4. Gas pressure must be 7-9½ inches W.C. for natural gas and 11 inches W.C. for propane or butane (bottled) gases.
5. Refer to chart for correct gas pipe sizes and lengths. The ¾ inch gas pipe must be the minimum gas supply pipe for the dryer and over 50 ft., 1 inch pipe size.
6. Main burner orifices must be correct size, they are calculated with the following information:
  - (A) Your locality heating value of gas, B.T.U./cu. ft.
  - (B) Local specific gravity of gas.
  - (C) Gas manifold pressure inches of water column.
    - (1) 3.5 inches water column pressure for natural gas
    - (2) 11 inches water column pressure for propane or butane gases.
  - (D) Gas input rate per each burner orifice.
7. Voltage must be the identical as on the electrical rating plate. Prevent low voltage; it causes longer drying operation.
8. Back draft damper must swing full open to prevent air flow restrictions. (Check for full open operation every 6 months). Non-operative or erratic operation of exhaust dampers will cause air flow switches to shut off gas and will result in longer drying time.

The above should be checked and corrected before attempting to trouble shoot the electronic silicon carbide gas ignition system.



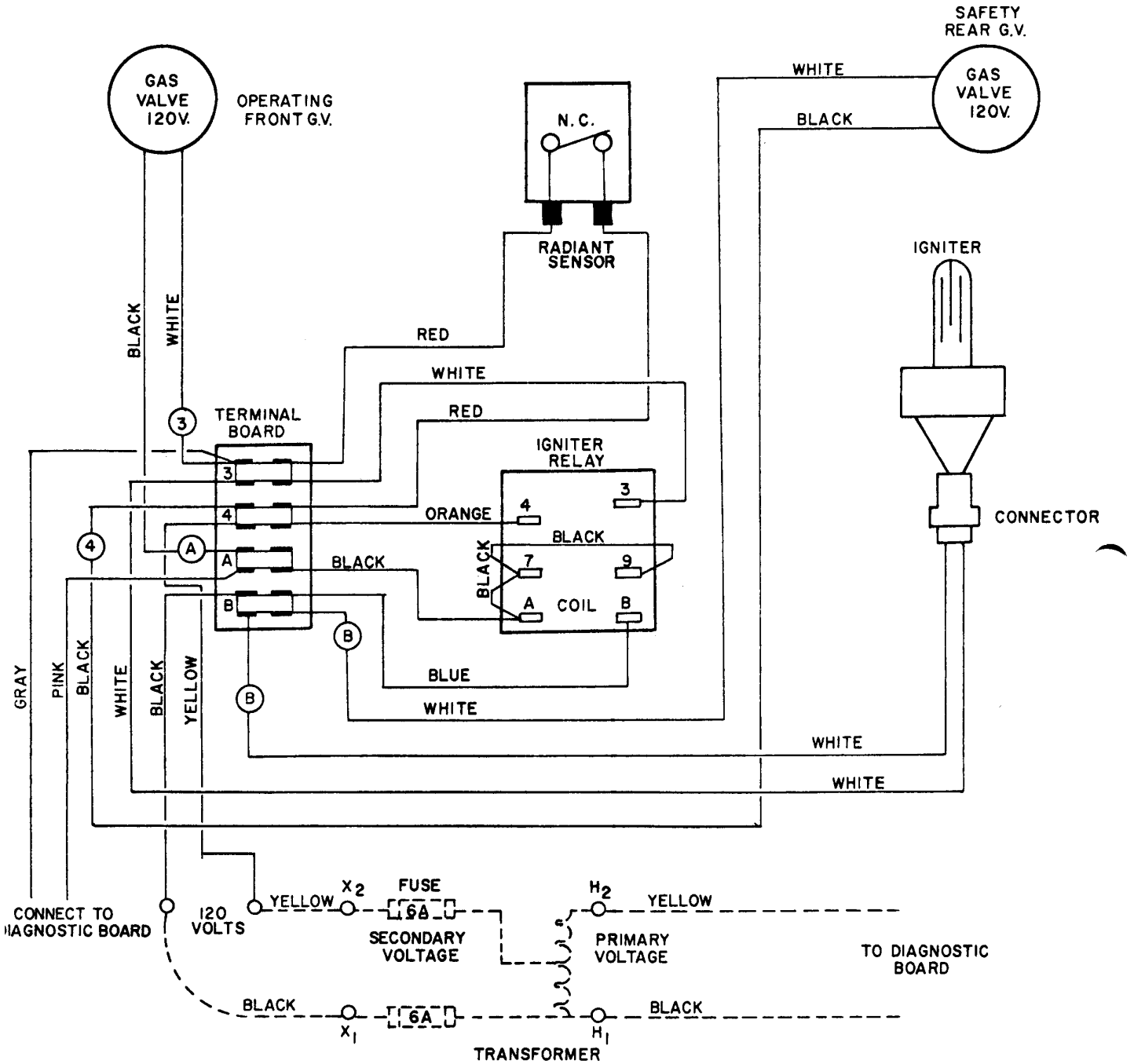
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# WIRING DIAGRAM

TWL 713

NORTON SILICON CARBIDE GAS IGNITION SYSTEM  
120 VOLTS : 50/60 HZ : 1 PHASE  
GAS DRYERS

MODELS R & K



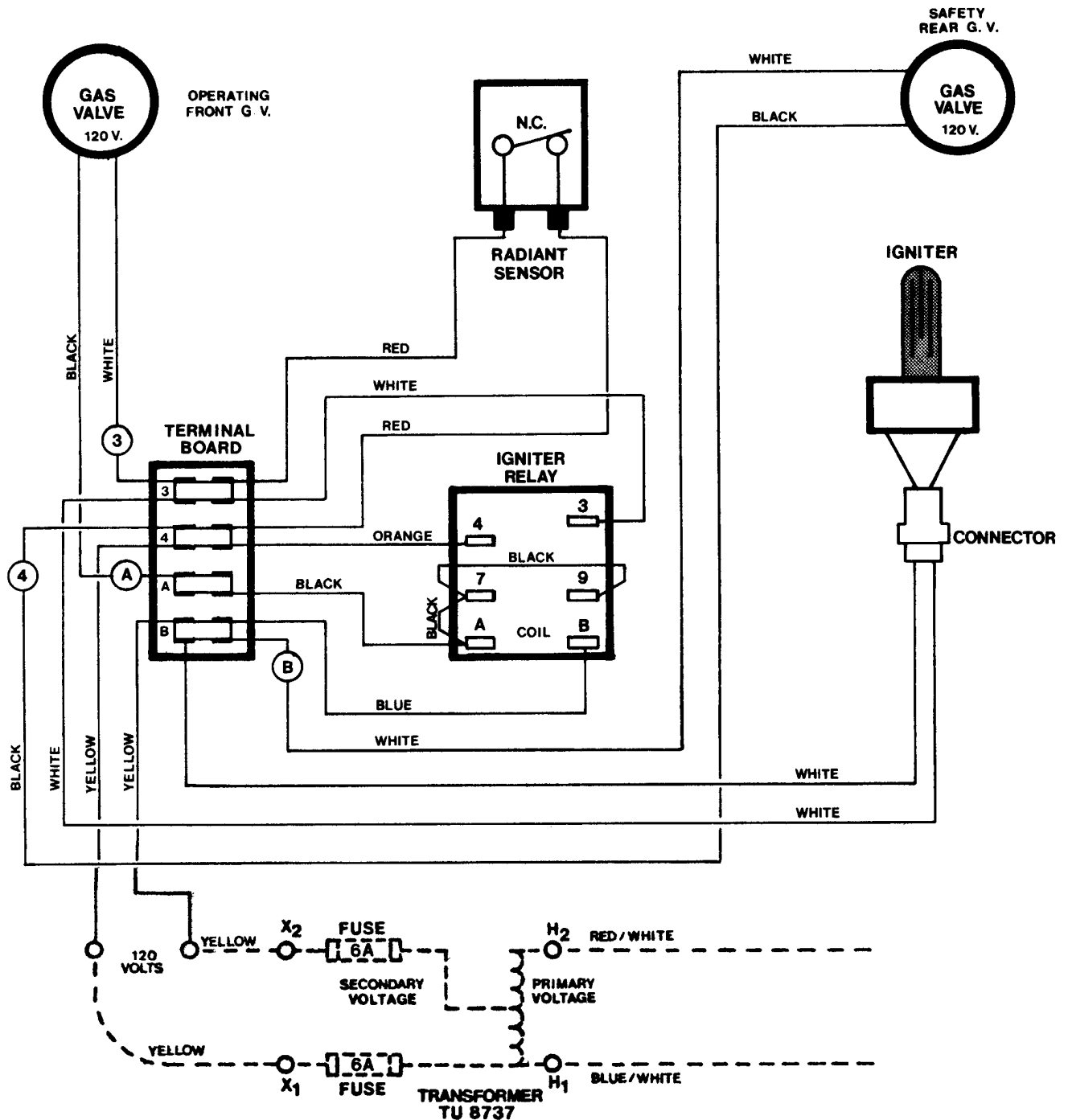
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**WIRING DIAGRAM**

NORTON SILICON CARBIDE GAS IGNITION SYSTEM  
 120 VOLTS; 50/60 HZ; 1 PHASE  
 GAS DRYERS

**TWL 679\***

MODELS C & F



**\* NOTE**

TWL 679 = L28CS30, WEB, CALIF. METER;  
 TWL 680 = L28F30, L36C30, L36F30, L36C36, L36F36;

## **MAINTENANCE**

1. Clean lint trap daily: Remove lint before starting day's operation. A clean lint trap will increase the efficiency of the dryer, as the moisture laden air will be exhausted to the atmosphere more quickly.
2. Keep basket and sweep sheets clean: Clean periodically and/or as often as required. The basket and sweep sheets within the dryer are easily accessible for cleaning by removing the front panel of the dryer.
3. Gear reducer: Maintain oil level in gear reducer, half the depth of the oil cup. Use Cissell transmission oil. (See Cissell gear reducer sheet.)
4. Pulleys and belts: Keep belts clean. Oil and dirt will shorten the useful life of a belt. Never allow a belt to run against the belt guard. Check periodically for alignment. Pulley shafts must be parallel and the grooves must be in alignment. Check and retighten pulley set screws periodically. Check belt tension periodically. Lower motor to increase tension by adjusting the nuts fastening the motor plate to the 5/16" rod connected to the gear reducer.
5. Electric motors: Keep motors clean and dry. Motors having ball bearings are packed with sufficient grease for approximately five years normal operation. After five years, the bearings and housing should be cleaned thoroughly. Repack each bearing and the cavity back of the bearing one-third full with Chevron Grease No. SR1-2.

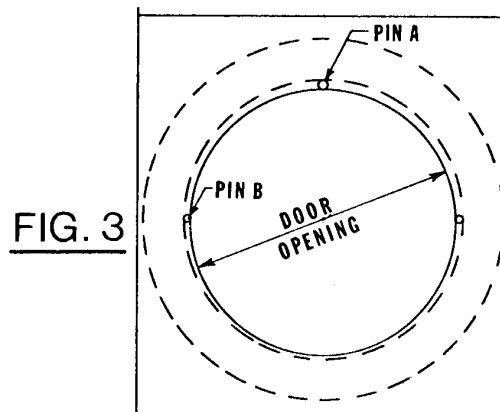
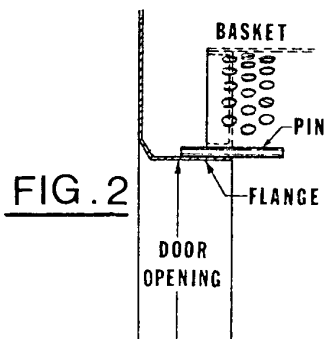
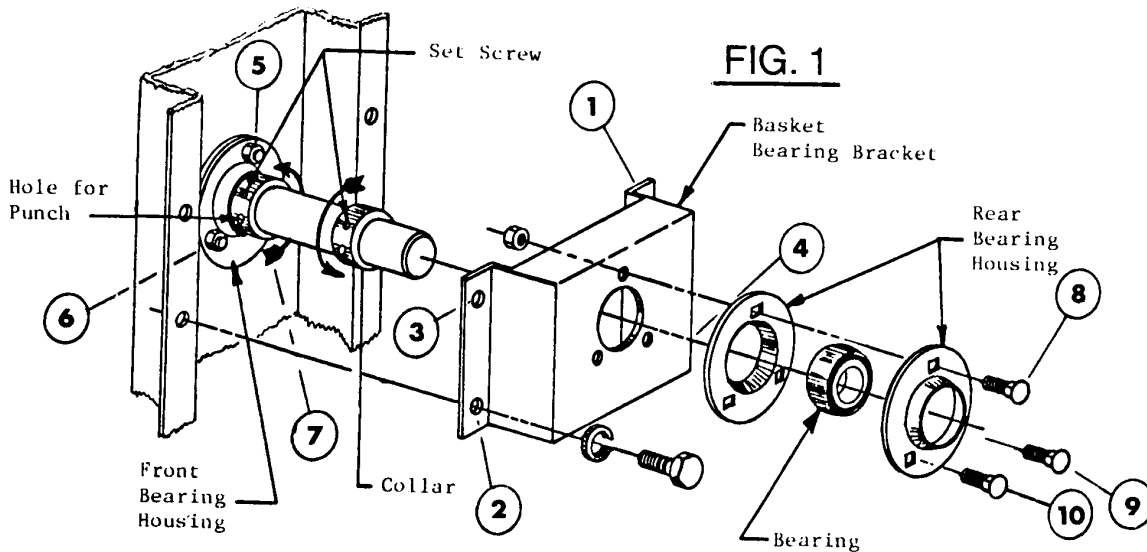
Motors having wool packed sleeve bearings are oiled at the factory for one year's normal operation. After one year's normal operation, add annually one-half teaspoon electric motor oil or S.A.E. #10 to each bearing. For 24 hour per day operation, add one teaspoon of oil annually.

If motors overheat, check voltage and wiring. Low voltage, inadequate wiring, and loose connections are the principle causes of motor failure.

6. Adjustable leveling bolts: One at each corner, front and rear permits accurate alignment of dryer.  
To adjust: Block corner of dryer up off floor, loosen hex nut. With wrench, turn bolt clockwise to raise dryer, counter-clockwise to lower. Rear bolts are on outside of dryer. Hex nuts for front bolts are inside lint trap.
7. Steam heating units: Keep steam coils clean. Check periodically and clean as often as required. Remove lint and dirt accumulation from coil fins periodically as dirty lint laden coil fins decrease the efficiency of steam-heated dryers.
8. Gas burners: Keep gas burners clean. Check periodically and clean often.
9. Periodically examine and clean the exhaust system.
10. Keep dryer area clean and free from combustible materials, gasoline and other flammable vapors and liquids.
11. Do not obstruct the flow of combustion (make-up) air and ventilating air.
12. Periodically check gas pressure.
13. Periodically check dryer voltage per dryer rating plate.

## INSTRUCTIONS FOR ALIGNING BASKETS ON CISSELL DRYERS - SINGLE MOTOR

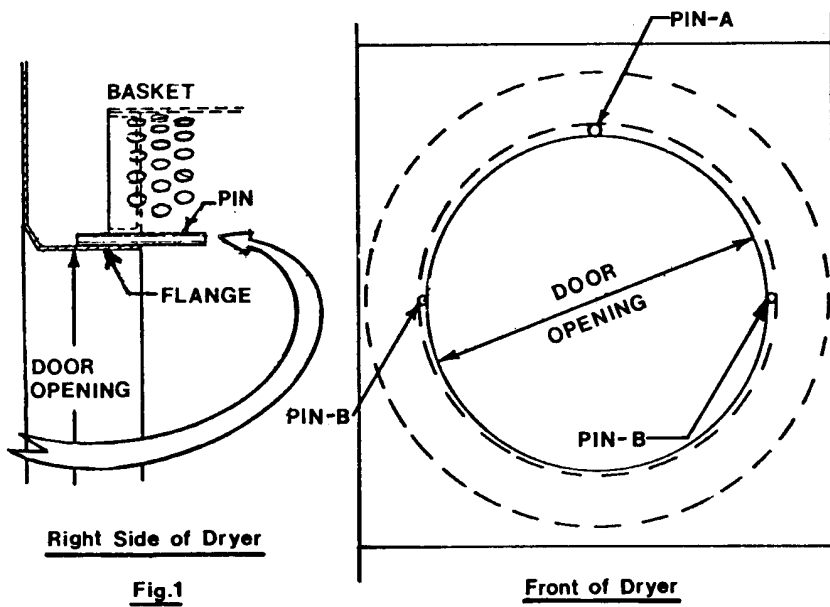
1. Loosen four basket bearing bracket bolts 1,2,3, & 4 (Fig.1) on rear of dryer. Loosen 3 nuts 5,6,7 holding FRONT bearing housing and 3 bolts 8,9,10 holding REAR bearing housing. Loosen both front and rear bearing collars. NOTE: All fasteners must be loose enough to permit free movement of each bearing in its housing.
2. Push basket to rear or pull to front (whichever is required) to bring basket approximately flush with edge of door opening flange. (plus or minus 1/8")
3. Place FRONT bearing collar (nearest to cabinet) in position and tighten.
4. Place the "A" pin (7/16" diameter) at top and the two "B" pins (5/16" diameter) at the sides of the door opening as shown in Figures 2 & 3. (Inside the dryer compartment between the rim of the basket opening and the rim of the door opening.) NOTE: For pins, use drill bits or short sections of round steel rods.
5. With pins in position, tighten FRONT bearing housing nuts 5,6,7 in 3 step sequence:  
 First Step- Tighten nuts 5,6,7 lightly (just enough to remove slack).  
 Second Step- Tighten nuts 5,6,7 half tight.  
 Third Step- Tighten nuts 5,6,7, securely.
6. Tighten REAR bearing housing bolts 8,9,10 lightly (just enough to remove slack in bearing and housing.)
7. Fully tighten bearing bracket bolts 1,2,3,4 securely.
8. Loosen REAR bearing bracket bolts 8,9,10, then tighten using the 3 step sequence in step 5 above.
9. Remove pins and check the space between basket and door opening at "B" pin position(Fig.3). If gap is not approximately the same on both sides, repeat steps 1 through 8.
10. Place REAR bearing collar in position and tighten.



INSTRUCTIONS FOR ALIGNING BASKET ON CISSELL 50 LB. DRYER - DOUBLE MOTOR

1. Loosen the 4 gear reducer mounting bolts (1, 2, 3 & 4) on rear of dryer, and 2 adjusting bolts #5, on gear reducer housing. (Fig. 3).
2. Place one "A" and two "B" diameter pins inside the drying compartment between the rim of the basket opening and the rim of the door opening in the positions shown in Figure 1 and Figure 2. Check the two "B" pins for equal clearance.
3. With the pins in position, tighten the two No. 5 bolts until flush against back of dryer. Retighten gear reducer mounting bolts in the numerical order indicated in Figure 3. Tighten lock nuts No. 6 to secure bolts No. 5 in position. Then remove pins.
4. Check the space between basket and door opening at "A" pin and "B" pin positions (Figure 2). If the gap is not approximately the same on both sides, repeat steps 1, 2 & 3.

NOTE: Use short sections of round steel rod for pins or drill bits may be used in place of round rod.



PIN-A-1/2 DIA.  
PIN-B-5/16 DIA.

Fig. 2

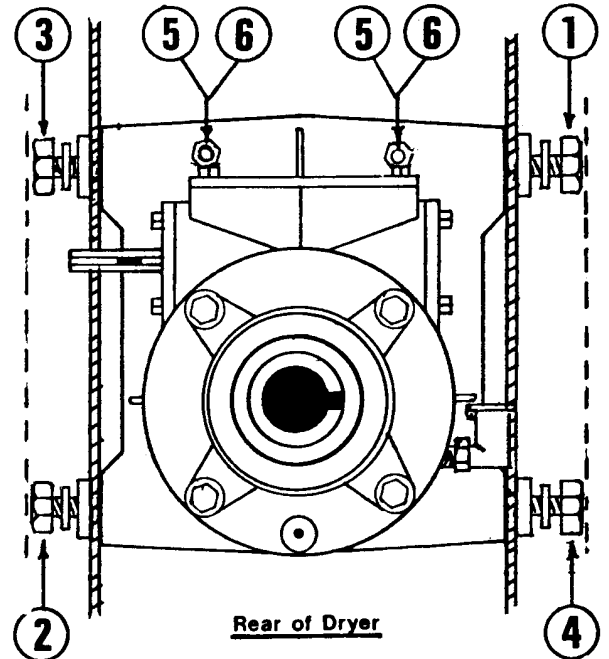


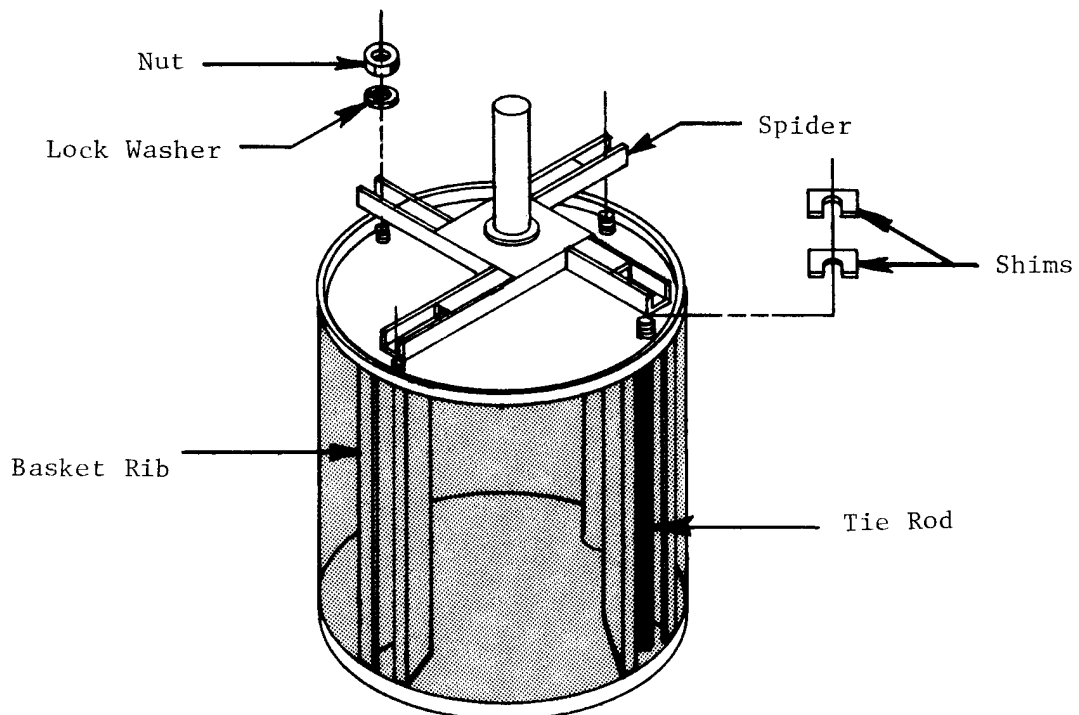
Fig. 3

INSTRUCTIONS FOR SHIMMING A CISSELL  
BASKET AND SPIDER ASSEMBLY

This procedure is normally necessary when replacing either the basket or the spider assembly on any Cissell dryer tumbler. The alignment of these two parts is crucial in assuring a true running basket.

- A. Align the basket per instructions on pages 44-45
- B. Rotate the basket to determine where the most out of round point is or where the basket scrapes or comes closest to scraping the sweep sheet.
- C. Mark this position and the nearest rib to this position.
- D. Remove the basket (do not loosen the alignment bolts).
- E. With the basket on the floor, spider up, place one or two shims between the spider leg and the back of the basket at the position marked on the rib. See illustration.
- F. Install the spider and basket assembly and re-check cylinder.
- G. If the basket is still out of round at this point, steps B through F must be repeated.
- H. Upon completion of the shimming process, re-alignment of the basket is necessary.

Note: If the point mentioned in Step B is between two ribs, both ribs might have to be shimmed.

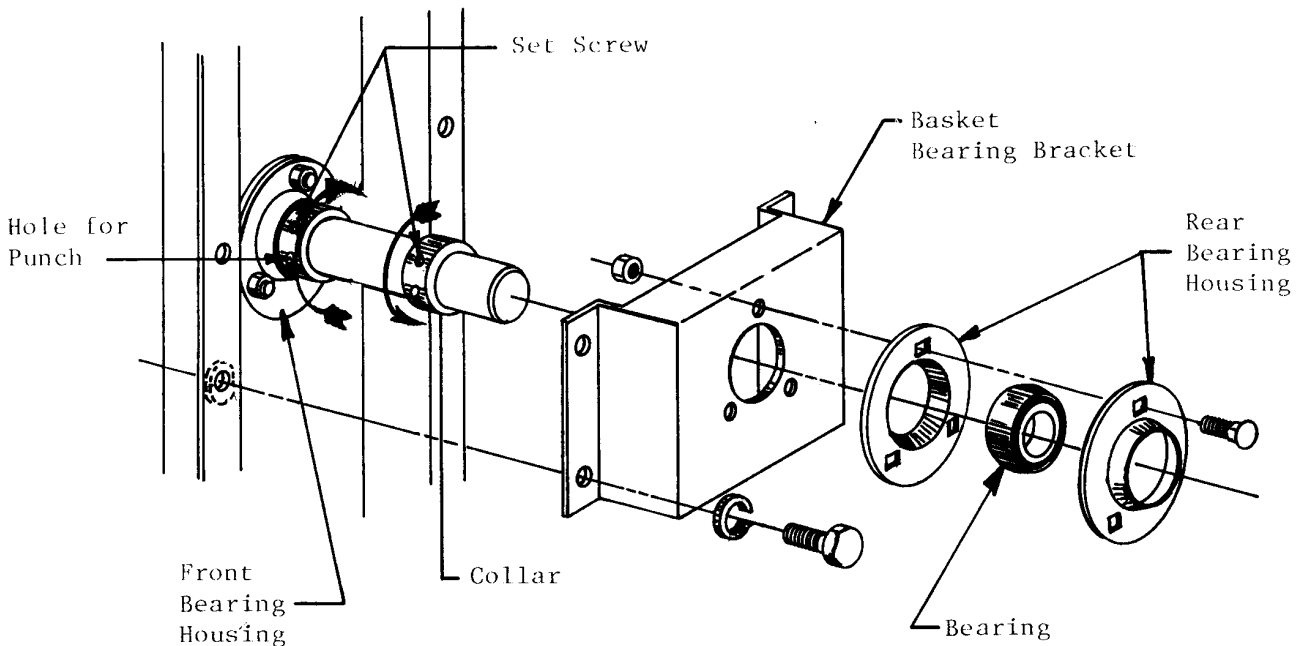




### INSTRUCTIONS FOR REPLACING BEARING

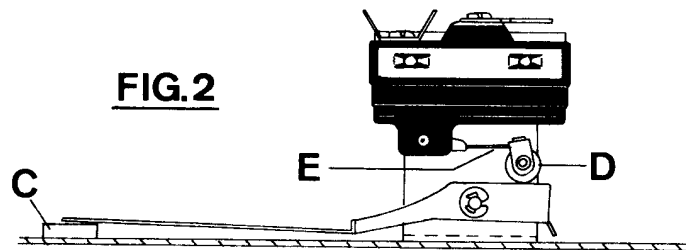
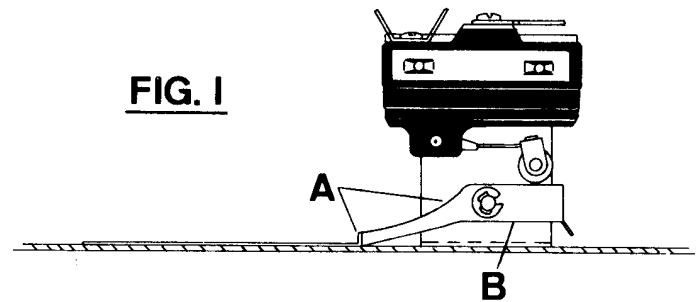
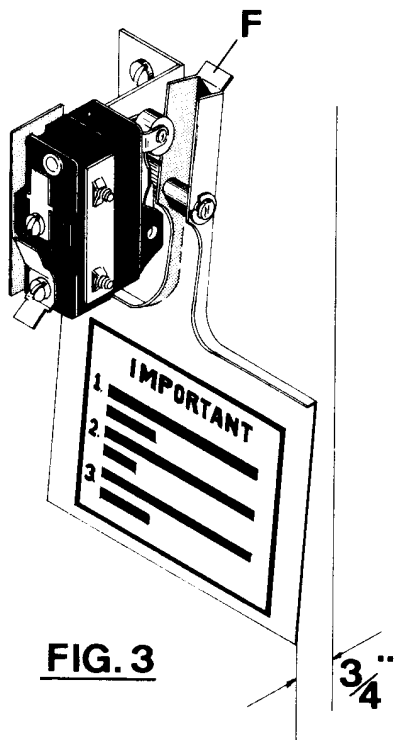
1. Remove belt guard, V-belt, and basket sheave.
2. Loosen and remove set screws in bearing collar.
3. Release bearing collar by rotating as indicated in illustration. If necessary, use punch and mallet to break collar loose. Rotate in direction indicated until bearing collar can be moved away from bearing.
4. Loosen three bolts in rear bearing housing. Remove four bolts in basket bearing bracket and remove bracket.
5. Remove three nuts on front bearing housing. Remove old bearing and replace with new bearing and bearing collar.
6. Remove old bearing in basket bearing bracket and replace with new bearing and bearing collar. Place basket bearing bracket on shaft and lightly tighten four mounting bolts.
7. Align per instructions on separate page of this manual.

Grease to be applied to all bearing shafts. Use #42-032-6015 grease Lubriplate #310 1 lb. can  
OR 14.5 ounce tubes, Lubriplate #930-2 Multi-purpose grease #10098.



## AIR SWITCH ADJUSTMENT

1. Shut off current; disconnect leads and remove air switch.
2. Lay air switch assembly on flat surface. Adjust air blade at "A" (fig. 1) so that air blade lays flat and surface "B" is parallel to the flat surface.
3. Place 3/8" x 5/8" spacer bar or equivalent "C" (fig. 2) under air blade in position shown; hold switch mounting bracket firmly and adjust switch actuator "D" with needle nose pliers at "E" by twisting actuator right or left whichever is needed so that switch closes when end of air blade engages bar "C".
4. Maximum opening of air switch must be no greater than 3/4" (fig.3). Bend tab "F" in or out to maintain this dimension.
5. Re-install air switch assembly on rear of dryer.
6. Re-check operation of air blade. Switch must close before air blade engages face of opening and re-open before stop "F" engages.



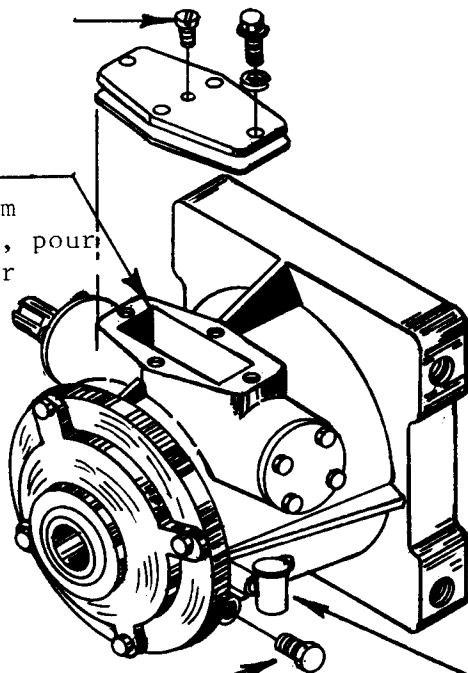
## GEAR REDUCER

### Vent: Important

Remove this screw before placing machine in operation

### Oil Fill:

Remove worm gear cover, pour oil in gear reducer to oil level. (one-half depth of oil cup)



TU3465  
Transmission Oil

### Drain Plug

### Oil Level Cup

Oil level one-half depth of cup. Do not overflow. Remove cork from oil level cup.

Before placing the dryer into operation, remove screw from vent in oil fill atop each gear reducer case. Remove the cork from the oil level inspection cup. If the oil level is correct, the oil level inspection cup will be half filled with oil. If not, add oil. Oil may be added to the gear reducer by removing the worm gear cover in the top rear of the gear reducer case. Do not operate a gear reducer unless the drain plug is tight, and the vent screw removed.

Each gear reducer is filled with one pint of Cissell TU3465 transmission oil before leaving the factory. Change oil once every six months.

The Large Timken Bearings, which support the worm gear and basket load, must operate in a preloaded condition, that is the worm gear must not have end play. The gear reducer is assembled at the factory to provide a 5-8 inch lb. pre-load on the bearings.

The Small Timken Bearings, which carry the worm must operate in a pre-loaded condition, that is, the worm must not have end play. The gear reducer is assembled at the factory to provide a 2-4 inch lb. pre-load on these bearings.

Total torque 8-10 inch lb. on shaft for both gears.

NOTE: On original equipment, the Cissell Gear Reducer is equipped with a Garlock Shaft Seal. If this seal requires replacement, it cannot be replaced with the same type of seal since the original seal would have seated in on the shaft. It must be replaced with a TU2166.

## REMOVAL AND INSTALLATION of SEALS on GEAR REDUCER OF CISELL® DRYERS

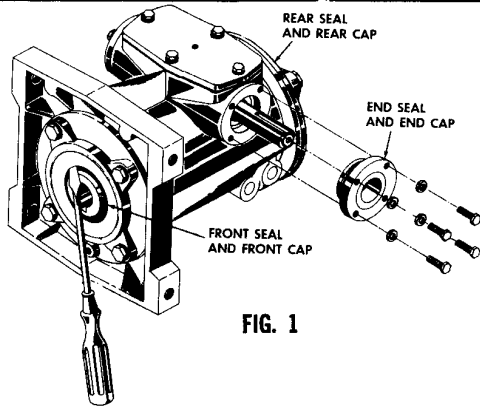


FIG. 1

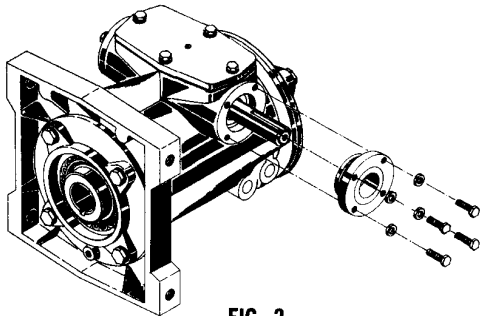


FIG. 2



FIG. 3

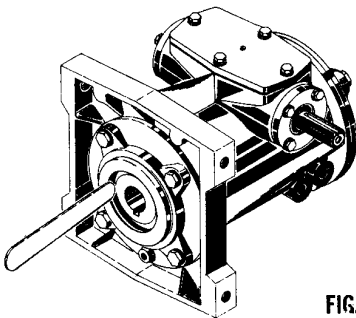


FIG. 4

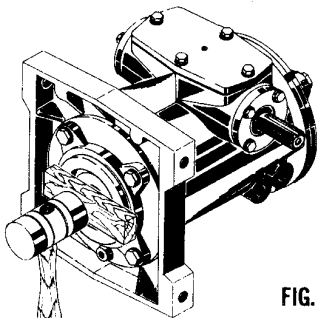


FIG. 5

### CAUTION

Drain oil before removing seals; replace with NEW oil after installing new seals (See Cissell Gear Reducer Sheet).

Remove Gear Reducer from rear of dryer before removing seals.

### TO REMOVE EXISTING FRONT AND REAR SEALS from front and rear caps on Gear Reducer (Fig. 1):

Slip end of screwdriver under seal (front seal illustrated); using end of Gear Shaft as a fulcrum, force seal out. Repeat operation at several different places until seals are removed from gear shaft.

### TO REMOVE EXISTING END SEAL and END CAP from Gear Reducer (Fig. 1):

Remove four cap screws and slip end cap and seal from worm gear. Tap seal out of cap from inside.

Clean inside of front, rear, and end caps. Spread permatek evenly over area to receive seal. Clean outside end of large and small gear shafts. Spread vasoline evenly over area to receive seal, (Fig. 2).

Spread permatek evenly over outside rim area, (Fig. 3) of seal. Spread vasoline evenly over inside rim area of seal.

### TO INSTALL NEW FRONT AND REAR SEALS:

Hold front (and rear) seal tightly in place over gear shaft with rubber seal in. Run edge of thin, dull instrument (such as wooden spatula, illustrated against front seal, Fig. 4) carefully around rubber wiping edge of seal and chamfer end of gear shaft so that seal is evenly installed all around gear shaft. DO NOT INJURE RUBBER WIPING EDGE.

### TO INSTALL NEW END SEAL:

Slip seal in end cap. Hold cap and seal tightly in place over small shaft with rubber seal in. Run edge of wooden spatula carefully around rubber wiping edge of end seal and chamfer end of small shaft so that seal is evenly installed all around edge of shaft. DO NOT INJURE RUBBER WIPING EDGE.

### AFTER SEALS ARE EVENLY INSTALLED ALL AROUND EDGES OF SHAFTS:

Place block of wood over front and rear seals and tap all around with a plastic faced mallet, (Fig. 5) until seal is flush into recess of front (or rear) cap.

Slip end seal and cap into position and tighten four bolts; then with a block of wood over end seal, gently tap with plastic faced mallet, until seal is flush into recess of end cap.

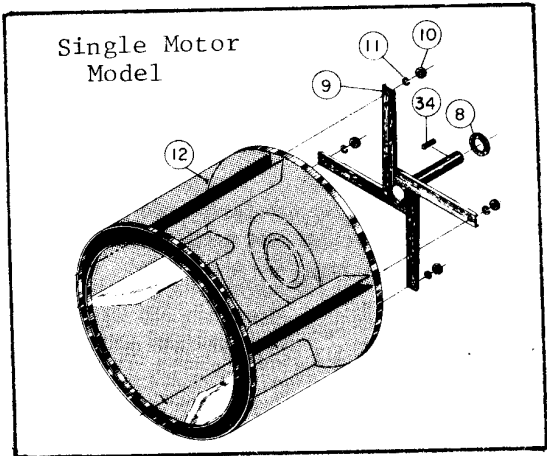
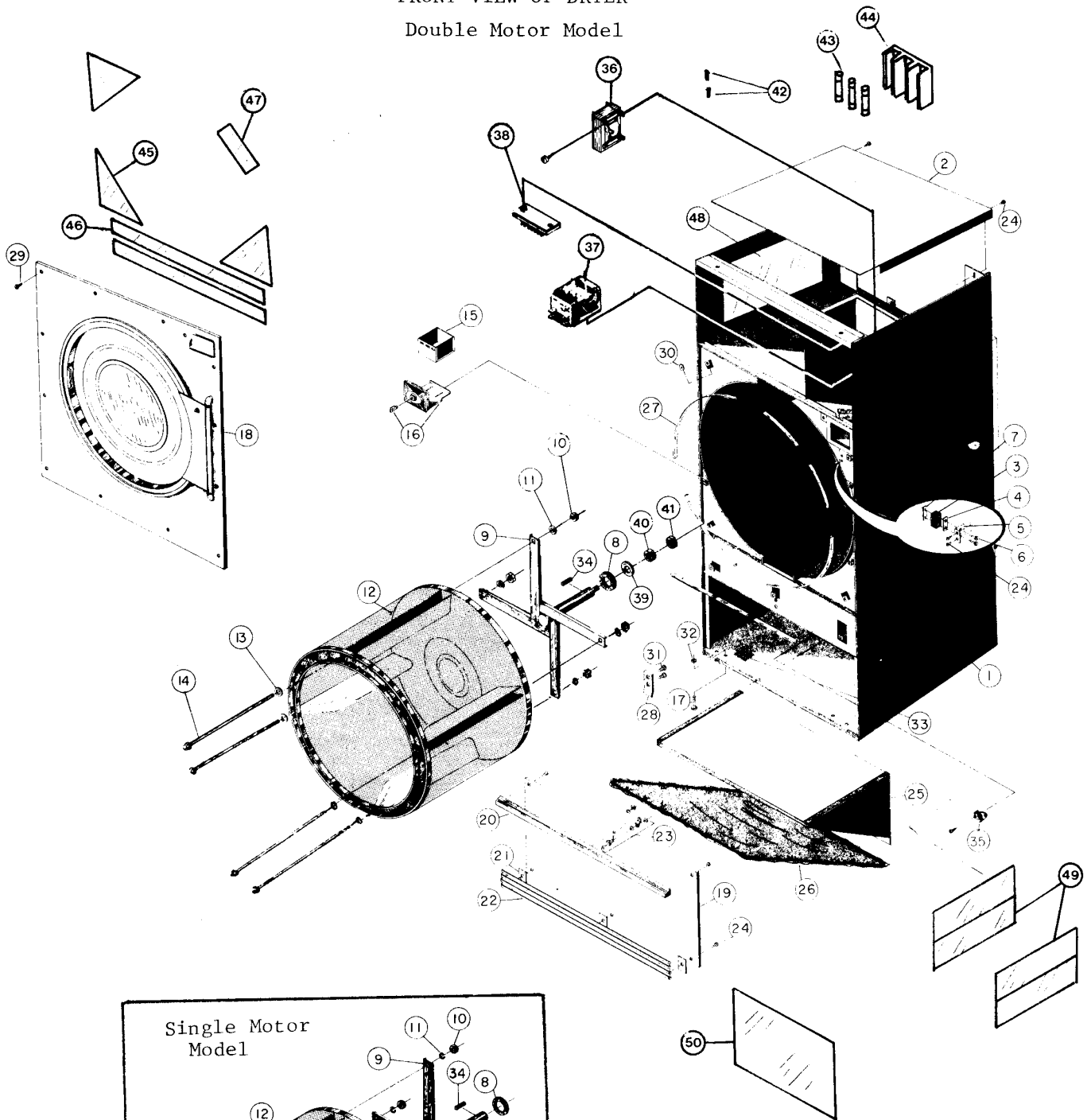
### REINSTALL GEAR REDUCER ON REAR OF DRYER

### IMPORTANT

While the sealing element or packing ring in a seal is not fragile, care must be taken to prevent damage to the wiping edge during mounting. Do not apply pressure to, nor hammer directly on, the sealing ring or spring; make sure that all mounting tools contact only the metal case of the seal.

WO1863 2-16-82 (Replaces 1-2752)

FRONT VIEW OF DRYER  
Double Motor Model



Grease to be applied to all bearing shafts. #42-032-6015 Grease Lubriplate #310- 1 lb. can OR 14.5 Oz. Tubes-Lubriplate No. 930-2 Multipurpose Grease #10098.

FRONT VIEW OF DRYER

<u>Ref. No.</u>	<u>Part No.</u>	<u>Description</u>	<u>Ref. No.</u>	<u>Part No.</u>	<u>Description</u>
1	TU8180	Jacket Welded Assy. (For Coin Vault)	21	TU2710	Trim Holder
	TU8181	Jacket Welded Assy. (For Time & Temp.)	22	TU2385	Trim
	TU9594	Jacket Welded Assy. (For K & R Models)	23	TUB1867	Lock & Key
2	TU2621	Solid Top (Gas)	24	TU7733	#8x $\frac{1}{2}$ " Self Drill Screw
3	TU1979	Door Switch	25	TU8368	Lint Trap Frame Welded Assy.
4	TU1770	Insulator	26	TU5261	Self-Cleaning Lint Screen Assy.
5	TU2373	Door Switch Mounting Bracket		TU6956	Self Cleaning Lint Screen <u>Only</u>
6	TU3219	#6x1" Sheet Metal Screw	27	TU5225	Lint Screen Frame <u>Only</u>
7	TU1771	#6 Tinnerman Twin Nut	28	TU5876	Sweep Sheet Gaskets
8	TU108	Felt Seal (CD & FD Model Only)	29	TU3206	Lock Plate
9	TU7183	Spider Welded Assy. (CS & FS Model Only)	30	TU2878	#10 x 5/8" S.M.S.
	TU5231	Spider Welded Assy. (CD & FD Model Only)	31	TU2877	#10 Speed Nut
	TU9780	Spider Welded Assy. (K & R Models Only)	32	TU1978	#14 x 3/4" S.M.S.
10	TU2882	$\frac{1}{2}$ "-20 Hex Nut	33	TU4937	3/8"-16 Jam Nut
11	TU2831	$\frac{1}{2}$ " Split Lock Washer	34	TU2420	S. N. Plate
12	TU6822	Basket Weldment (C & F Models Only)	35	TU5887	Key
	TU9773	Basket Weldment (K & R Models Only)	36	TU3240	185°F Thermostat Mounted to Fan Housing
13	TU2883	$\frac{1}{2}$ " Cut Washer	37	TU8737	Transformer 208 or 230V.
14	TU2313	Tie Rod	38	TU8599	Primary, 120V. Secondary
	TU5490	Shim (3 req'd) See Instructions Shimming	39	TU8629	Relay 120V. (Igniter)
15	CM35	Coin Box	40	TU2439	Terminal Board (Igniter)
16	CM61	Coin Vault Lock Assy.	41	TU2439	Flat Washer**
17	TU3211	3/8"-16x2 $\frac{1}{2}$ Leveling Bolt	42	TU3537	Full Nut**
18	TU5810	Front Panel & Door Assy. (For Coin Vault)	43	TU3536	Jam Nut**
	TU6056	Front Panel & Door Assy (For Time & Temperature)	44	TU8738	Fuses
19	TU5566	Lint Door Welded Assy.	45*	TU10065	Fuses
20	TU7473	Handle	46*	TU7505	Fuse Holder
			47*	TU7735	Insulation (3 ea.)
			48*	TU8107	Insulation (2 ea.)
			49*	TU8108	Insulation (1 ea.)
			50*	TU7793	Insulation (1 ea.)
				TU7307	Insulation (4 ea.)
				TU8153	Insulation (1 ea.)

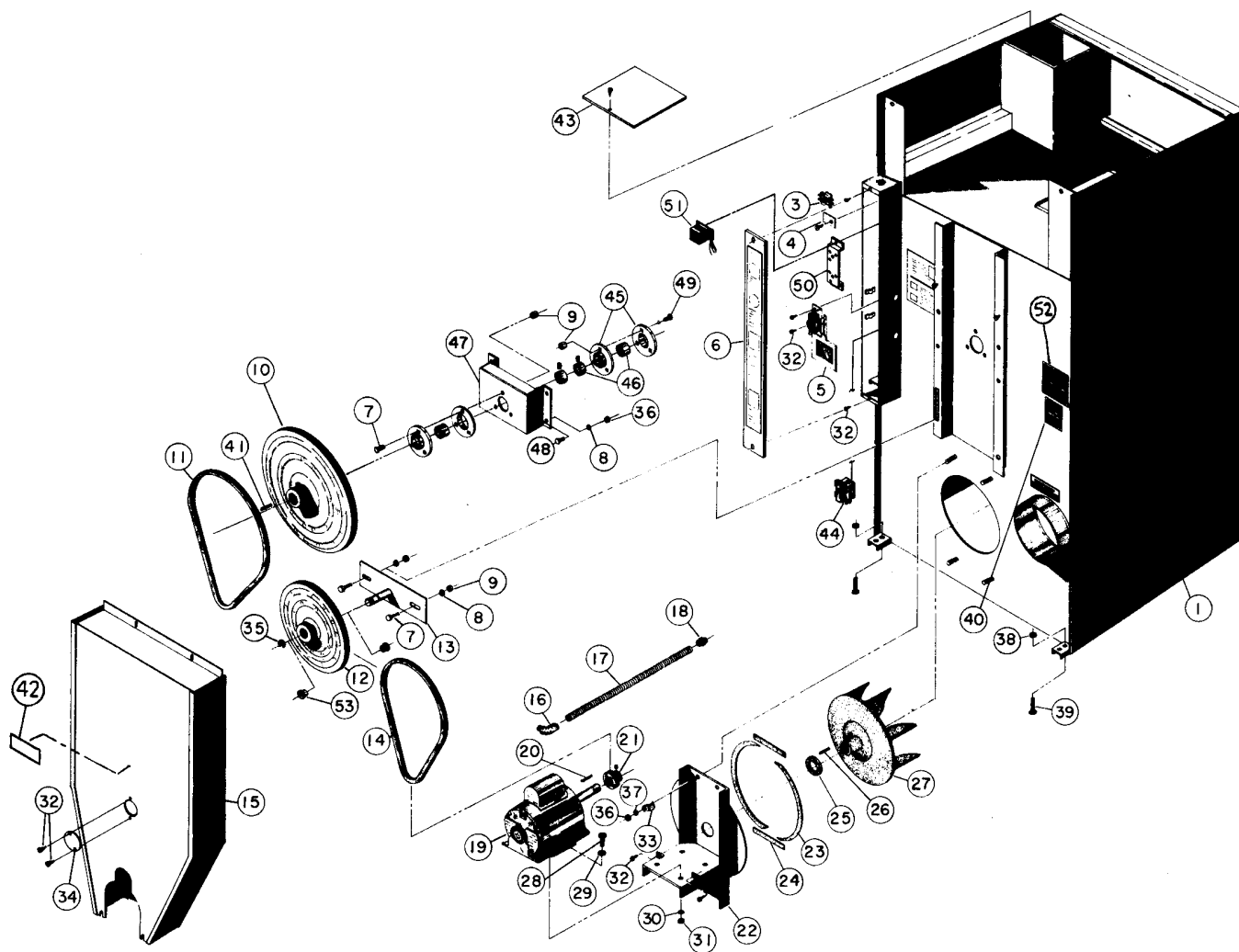
\*Used only on "F" or "R" models only.

\*\*Double motor model.

TU5808 Lint door assembly consists of 19-24.

TU8380 Self-cleaning lint trap assembly consists of 25-26.

REAR SECTION OF DRYER - SINGLE MOTOR



REAR SECTION OF DRYER - SINGLE MOTOR

<u>Ref. No.</u>	<u>Part No.</u>	<u>Description</u>	<u>Ref. No.</u>	<u>Part No.</u>	<u>Description</u>
1	TU8180	Jacket W/A-Coin Meter	28	TU5439	Hex Hd. Screw - 5/16"-18 x 3/4"
	TU8181	Jacket W/A-2 Timer			
	TU9594	Jacket W/A-Prompter	29	VSB130	Cut Washer - 5/16"
3	M155	Wire Harness Clamp	30	TU2814	Split Lockwasher - 5/16"
4	TU2726	Strain Relief Plate	31	C249	Hex Nut - 5/16"
5	TU2423	Air Switch Asm. See Separate Page	32	TU3218	Self-Drilling Screw 7/16"
6	TU5890	Control Box Cover	33	TU6484	Cable Strap
7	TU4936	Carriage Bolt 3/8" - 16 x 3/4"	34	TU7467	Cover Plate
			35	TU3247	Retaining Ring
8	TU3243	3/8" I.T. Lockwasher	36	TU4787	Hex Nut - 3/8"
9	TU3188	3/8" Hex Nut - Nylok	37	VSB134	Lockwasher - 3/8"
10	TU5446	Basket Sheave - 10"	38	TU4937	Jam Nut - 3/8"
11	TU5447	V-Belt - 4L660	39	TU3211	Leveling Bolt - 3/8"-16 x 2 1/2"
12	TU5217	Idler Sheave - 14"			
13	TU5213	Idler Bracket With Grease Fitting	40	F1116	Serial No. Plate
			41	TU5887	Key
14	TU4794	V-Belt (60HZ)4L590	42	TU9600	Idler Pulley Label
	TU6725	V-Belt (50HZ)4L600	43	TU5732	Mechanism Box Cover (Steam Dryer Only)
*15	TU5074	Rear Guard - Complete			
	TU7466	Rear Guard - W/O Cover Plate	44	TU1984	Relay-120V. 2 Pole
				TU1985	Relay-240V. 2 Pole
16	TU4791	Right Angle Connector		TU3495	Relay-240V. 3 Pole
17	504641292	Cable - 34" Long		TU3496	Relay-120V. 3 Pole
18	TU4790	Straight Connector	45	TU8588	Flangett
19	**	Motor	46	TU8587	Bearing & Collar
20	TU5241	Key	47	TU8586	Bearing Support
21	TU6761	Motor Sheave, 60 Hz., W/Set Screw	48	TU3246	Hex Hd. Screw - 3/8"-16 x 1"
	TU7525	Motor Sheave, 50 Hz., W/Set Screw	49	TU7178	Rib Neck Bolt 3/8" - 16 x 3/4"
22	TU5849	Motor Mount W/A	50	TU6220	Relay Mtg. Plate
23	TU2473	Side Gasket	51	TU4659	Transformer (380/ 440/550V., 50/60 HZ.
24	TU2474	Top & Bottom Gasket			
25	TU2476	Felt Seal		TU4660	Transformer (240/ 480V., 60 HZ.
26	TU4684	Key			
27	TU5874	Fan Wheel - 60 HZ.***	52	TU6783	Rating Plate
	TU8740	Fan Wheel - 50 HZ.***			Electric Heat Only
28	TU5439	Hex Hd. Screw 5/16" - 18 x 3/4"	53	TU7184	Bronze Bushing (2 ea.)
			54	TU9600	Idler Pulley Label

\*For Double Capacitor Motors Only:

TU9294 - Rear Guard Complete

TU9292 - Rear Guard W/O Cover Plate

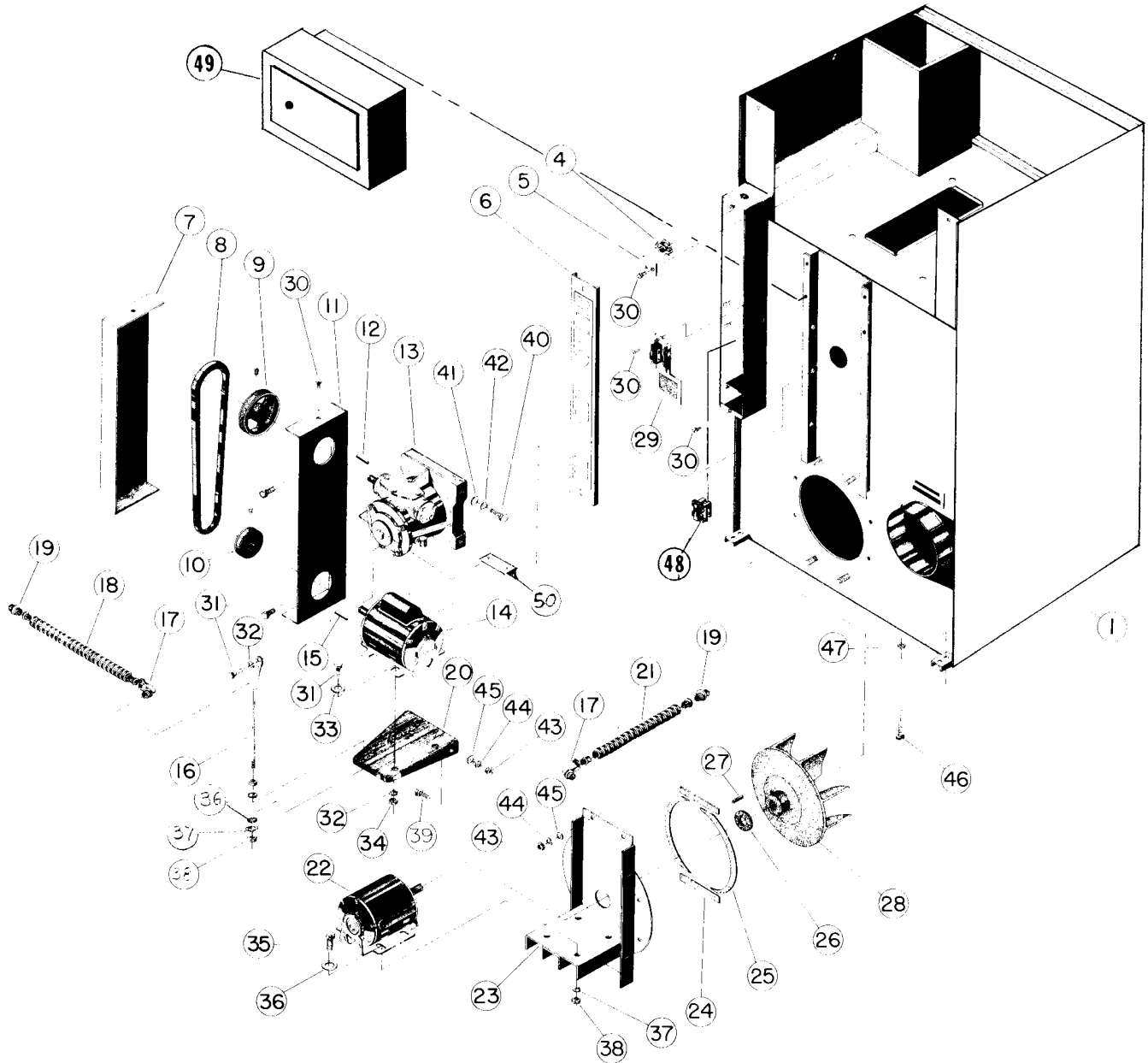
\*\*Specify Motor No., Voltage, H.P. and Phase

\*\*\*Set Screws - TU3282 (Round)

F819 (Square)



REAR SECTION OF DRYER - DOUBLE MOTOR

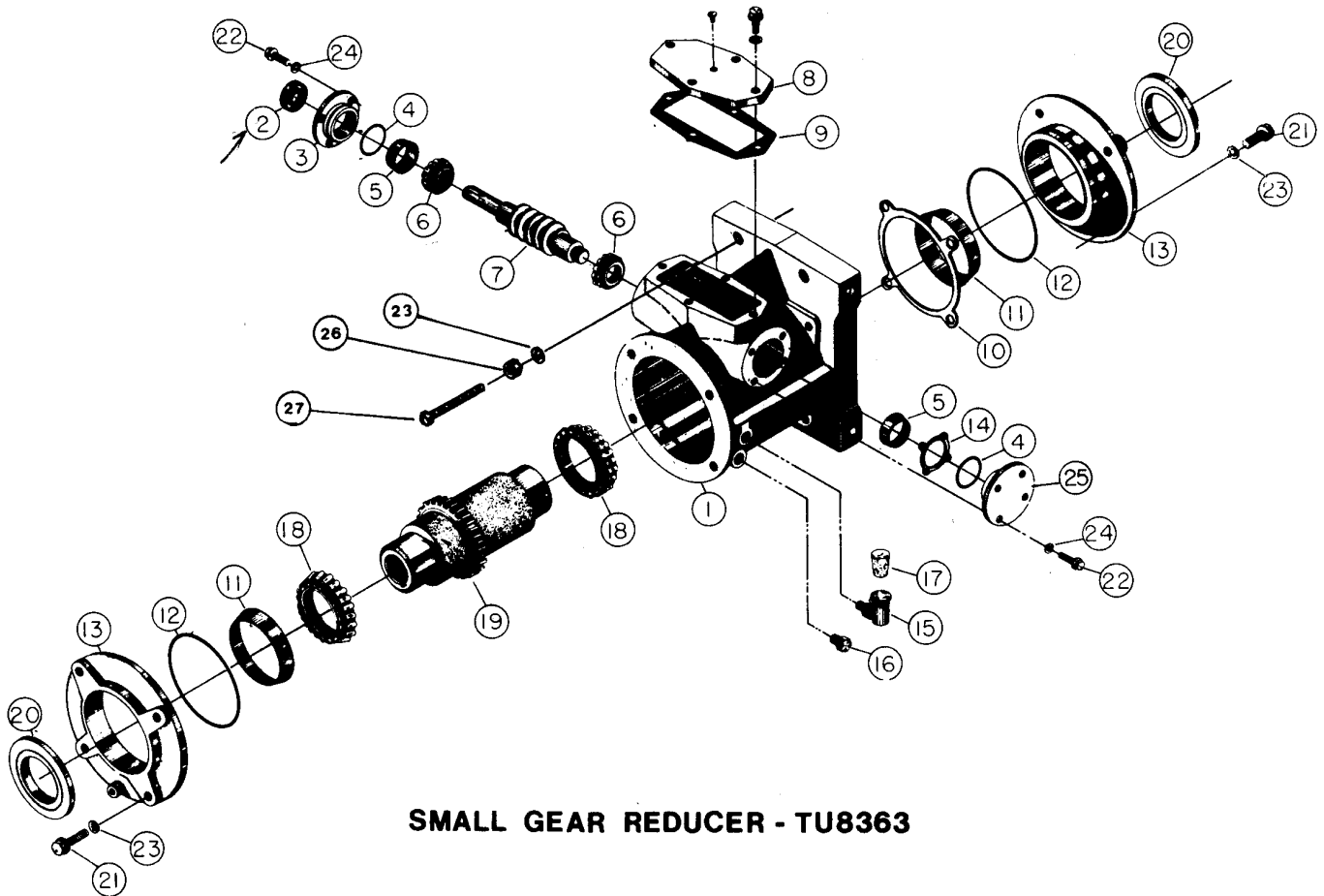


REAR SECTION OF DRYER - DOUBLE MOTOR MODEL

REF. NO.	PART NO.	DESCRIPTION
1	TU8180	Jacket (for coin vault)
	TU8181	Jacket (for Timer and Temperature)
4	M155	Wire Harness Clamp
5	TU2726	Strain Relief Plate
6	TU5890	Control Box Cover
7	TU3857	Belt Guard Cover
8	TU2317	V-Belt 46-380
9	TU2323	Gear Sheave (AK-51) w/set screw
10	F1034	Motor Sheave (AK-34) w/set screw
11	TU5254	Belt Guard Mounting
12	TU5241	Shaft Key
13	TU8363	Small Gear Reducer
14*	See page 9	Basket Motor
15	TU5241	Key
16	TU8608	Belt Adjusting Rod
17	TU4791	Right Angle Connector
18	5046-41-292	½" Greenfield Cable (Specify 17" Long)
19	TU4790	Straight Connector
20	TU33	Motor Drive Bracket
21	5046-41-292	½" Greenfield Cable (Specify 29" Long)
22*	See page 9	Fan Motor
23	TU2376	Motor Mount Weldment
24	TU2474	Top and Bottom Gasket
25	TU2473	Side Gasket
26	TU2476	Felt Seal
27	TU4684	Key
28 **	TU5874	Fan Assembly 60Hz.
	TU8740	Fan Assembly 50Hz.
29	TU2423	Airswitch
30	TU7733	#8 x ½" Sheet Metal Screw
31	RC344	¼"-20 x ¾" Cap Screw
32	TU2846	¼" Lock Washer
33	TU2847	¼" Cut Washer
34	TU4934	¼"-20 Hex Nut
35	TU5439	5/16"-18 x ¾" Cap Screw
36	VS8130	5/16" Flat Cut Washer
37	TU2814	5/16" Split Lock Washer
38	C249	5/16"-18 Hex Nut
39	TU3124	3/8"-16 X ¾" Cap Screw
40	RC347	½"-13 x 1¼" Cap Screw
41	TU1851	½" Cut Washer
42	TU2831	½" Lock Washer
43	TU4787	3/8"-16 Hex Nut
44	VS8134	3/8" Lock Washer
45	IB140	3/8" Cut Washer
46	TU3211	3/8"-16 x 2½" Leveling Bolts
47	TU4937	3/8"-16 x ¾" Cap Screw
48	TU1984	Relay-120 V., 50/60 Cy. (2 Pole)
	TU1985	Relay-240 V., 50/60 Cy. (2 Pole)
	TU3495	Relay-208 or 240 V., 50/60 Cy. (3 Pole)
	TU3496	Relay-120 V., 50/60 Cy. (3 Pole)
49	See separate page	Reversing Control Box Assembly (3 Ph. only)
50	TU9840	Housing Mtg. Bracket (Prompters Only)

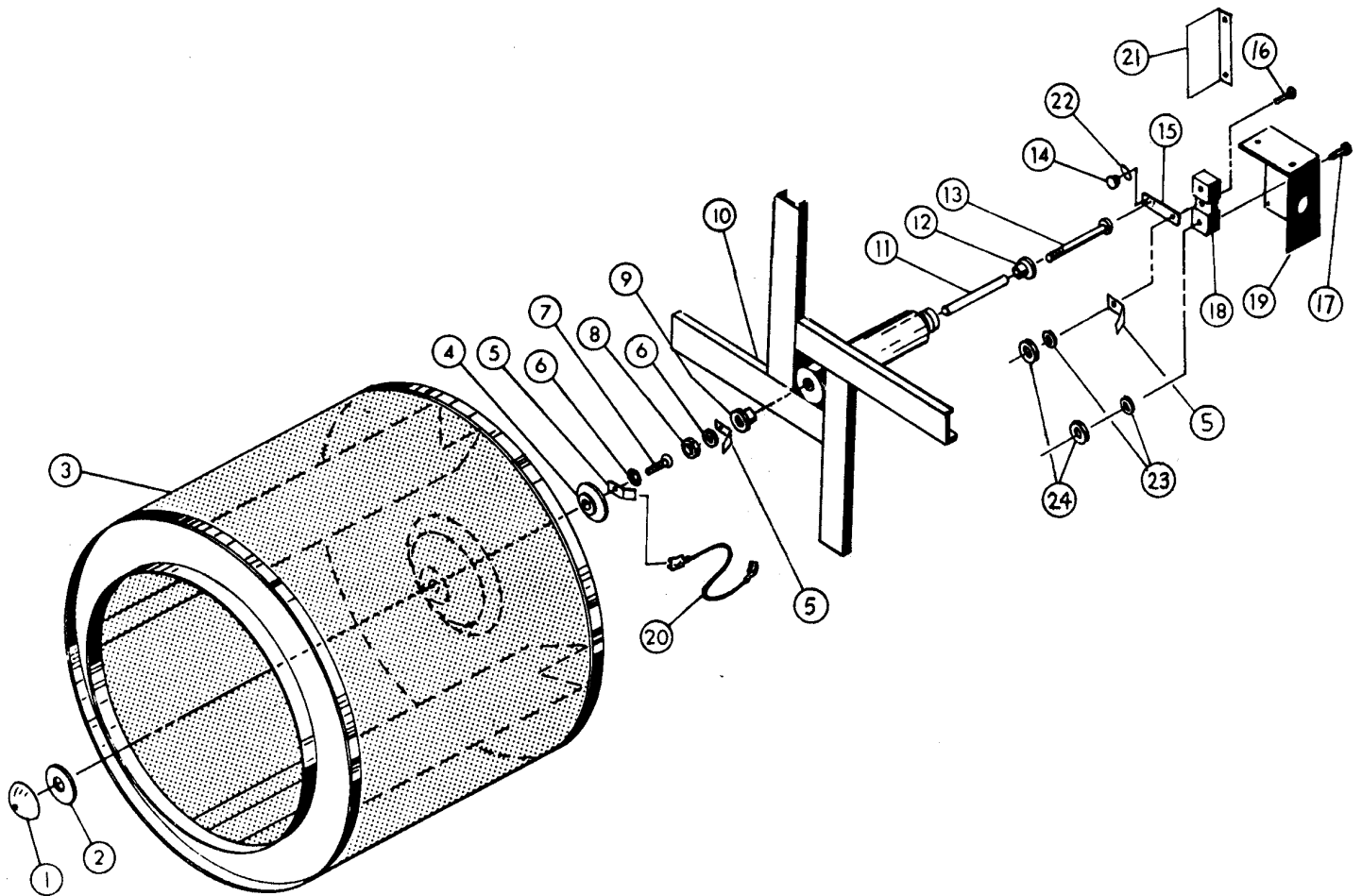
\* When ordering motors: Specify Motor No., Voltage, Horsepower, & Phase.

\*\*Set Screws - TU3282 (Round)  
F819 (Square)



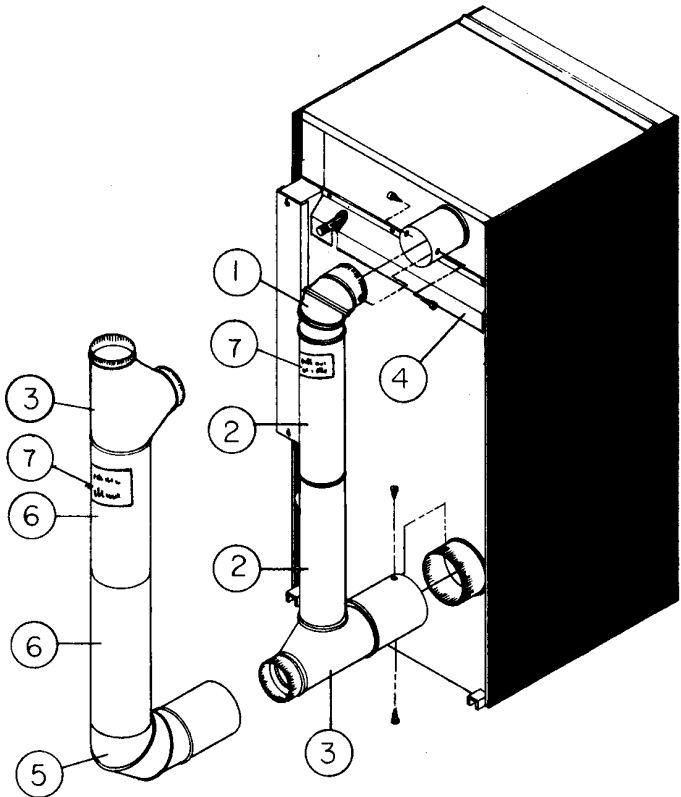
### SMALL GEAR REDUCER - TU8363

<u>Ref. No.</u>	<u>Part No.</u>	<u>Description</u>
1.	TU8362	Housing
2.	TU86	Small Klosure
3.	TU25	Small Open End Cap
4.	TU88	Small "O" Ring
5.	TU91	Small Bearing Cup
6.	TU90	Small Bearing Cone
7.	TU23	Worm 1 1/2" X 7 1/8"
8.	TU8350	Worm Gear Cover Assembly
9.	TU1796	Worm Gear Cover Gasket
10.	TU 1828	Large Shims (Set of 4) .005" and .007, 2 of each
11.	TU93	Large Bearing Cup
12.	TU1830	Large "O" Ring 4 5/8"
13.	TU26	Large End Cap
14.	TU21	Small Shims (Set of 4)
15.	TU70	Oil Cup
16.	X170	1/4" Pipe Plug
17.	TU3199	#10 Cork
18.	TU92	Large Bearing Cone
19.	TU22	Worm Gear
20.	TU2166	Oil Seal Field Replacement
21.	TU2623	Cap Screw 3/8" - 16" X 1 1/2"
22.	TU2839	Cap Screw 1/4" - 20" X 7/8"
23.	TU3243	3/8" Internal Tooth Lockwasher
24.	RC349	1/4" Internal Tooth Lockwasher
25.	TU24	Small Closed End Cap
26.	TU4787	3/8-16 Hex Nut
27.	TU8448	3/8-16 x 2 1/2 Screw



PROMPTER BASKET AND SENSOR ASSEMBLY - 50 & 70 LB. MODELS

<u>Ref.No.</u>	<u>Part No.</u>	<u>Description</u>
1	TU9616	Tip
2	TU9618	Insulator Washer
3*	TU9773	50 Lb. Prompter Basket W/A
	TU9796	70 Lb. Prompter Basket W/A
4	TU9617	Insulator Disc
5	AT388	Terminal Connector
6	TU9910	Ex. Tooth Lockwasher
7	RC353	Machine Screw
8	TU3400	#6-32 Brass Hex Nut
9	TU9621	Rod Insulator
10	TU9780	Prompter Spider W/A
11	TU9782	Sleeve
12	TU9621	Rod Insulator
13	TU9776	Conductor Rod
14	TU9647	Contact Button
15	TU9648	Wiper Strip
16	TU3624	Machine Screw
17	TU3624	Machine Screw
18	TU9849	Wiper Insulator
19	TU9838	Wiper Housing
20	TU9628	Jumper Wire
21	TU9839	Housing Side
22	TU9786	Push Nut
23	M271	I.T. Lockwasher
24	TU3266	#8-32 Hex Nut

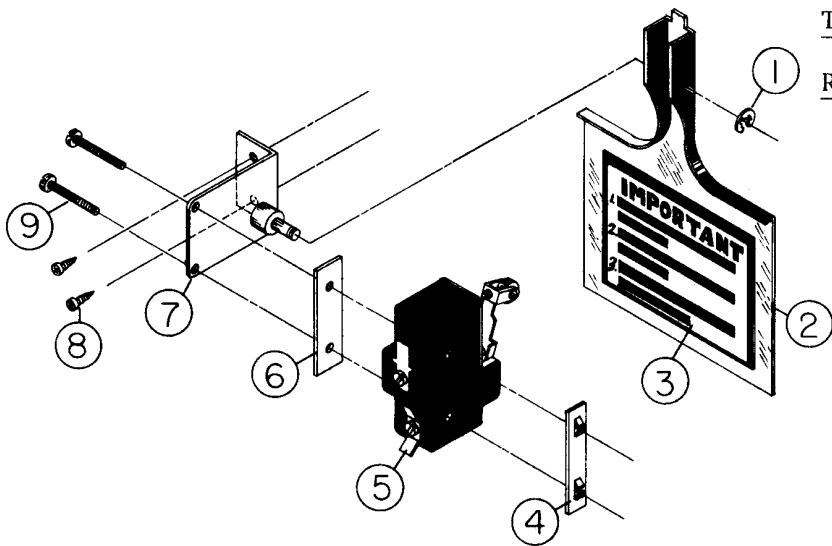


DUCT WORK ASSEMBLY

(HORIZONTAL OR VERTICAL)

REF. NO.    PART NO.    DESCRIPTION

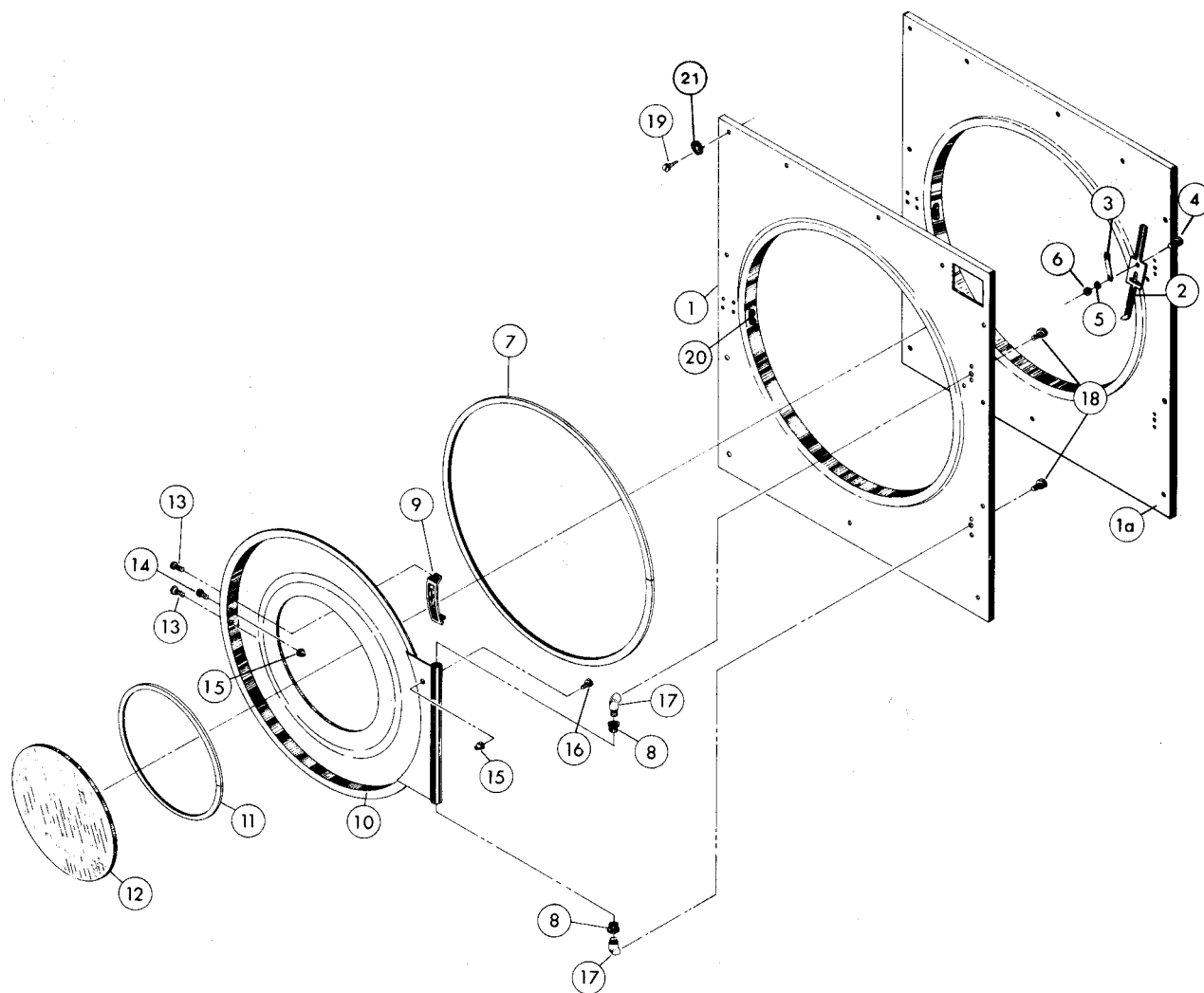
1.	TU8053	DUCT ELBOW
2.	TU8055	DUCT LONG
3.	TU8052	DUCT TEE
4.	TU8499	REAR AIR GUIDE WELDED ASS'Y.
5.	TU7375	EXTENDED ELBOW
6.	TU8177	DUCT SHORT
7.	TU8593	INSTALLATION LABEL (ENERGY-SAVING MODEL ONLY)



TU8206 AIR SWITCH ASS'Y.

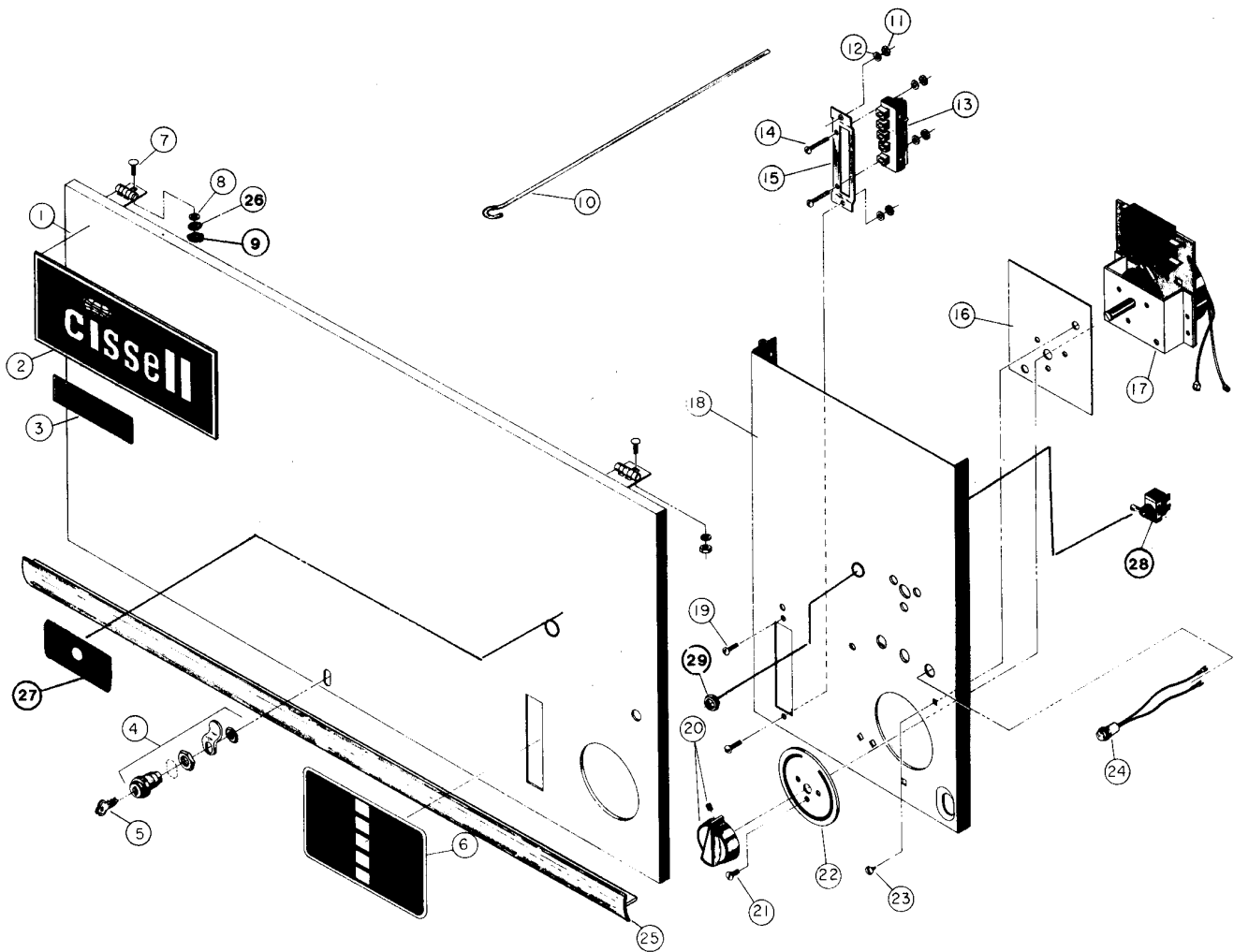
REF. NO.    PART NO.    DESCRIPTION

1	F888	"E" Ring
2	TU2463	Actuator Arm
3	TU3476	Air Switch Decal
4	TU1771	#6 Tinnerman Nut
5	TU8155	Air Switch
6	TU1770	Insulator
7	TU8171	Air Switch Bracket
8	TU7733	#8-18x1/2" Self- Drilling Screw
9	TU3219	#6x1" Round Hd. S.M.S



TU5810 Front Panel and Door Assembly (Coin Vault)  
 TU6056 Front Panel and Door Assembly (Time & Temp)

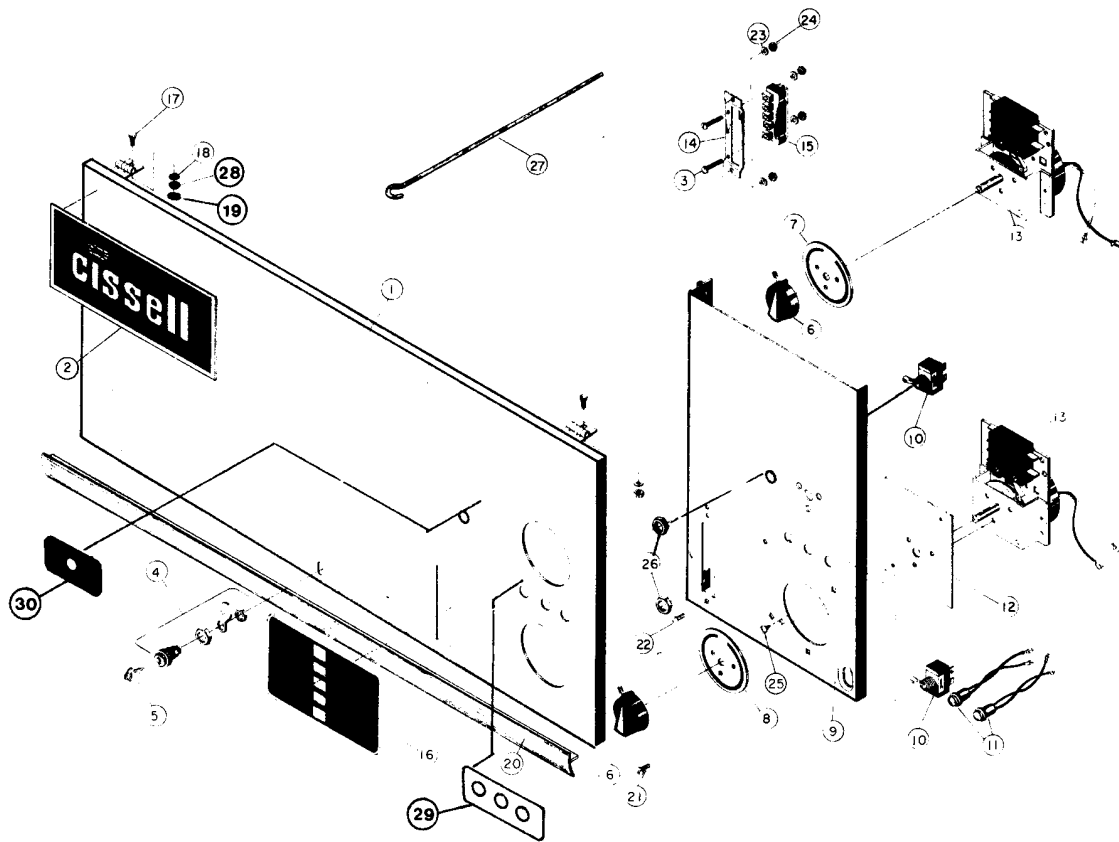
<u>Ref. No.</u>	<u>Part No.</u>	<u>Description</u>	<u>Ref. No.</u>	<u>Part No.</u>	<u>Description</u>
1	TU5534	Front Panel (for Coin Vault)	13	TU3215	#10-32x3/8" Taptite Screw
1a	TU6058	Front Panel (for Time & Temperature)	14	TU3163	Catch Pin
2	TU2194	Door Switch Actuator	15	TU4840	#10-32 Hex Crown Nut
3	TU2105	Actuator Spring	16	TU4839	#10-32x3/8" Machine Screw
4	M262	#8-32 Truss Head Screw	17	TU2236	Hinge Posts
5	FB187	#8 Split Lock Washer	18	TU2836	5/16"-18x1/2" Hex Head Cap Screw
6	TU3266	#8-32 Hex Nut	19	TU2878	#10x5/8" Sheet Metal Screw
7	TU5288	Basket Door Seal	20	TU7456	Door Catch Ass'y (w/rivets)
8	PIF172	Delrin Bearing	21	FB187	#10 Lock Washer
9	TU2874	Basket Door Handle	TU4827 Actuator Ass'y consists of ref. no's. 2, 3, 4, 5, & 6.		
10	TU5859	Basket Door	TU5857 Basket Door Ass'y consists of ref. no's. 7, 8, 9, 10, 11, 12, 13, 14, 15, & 16.		
11	TU1692	Rubber Gasket			
12	TU217	Door Glass			



SINGLE TIMER CONTROL PANEL AND ACCESS DOOR PARTS

ALL HARDWARE SOLD ONLY IN PACKAGES OF 6

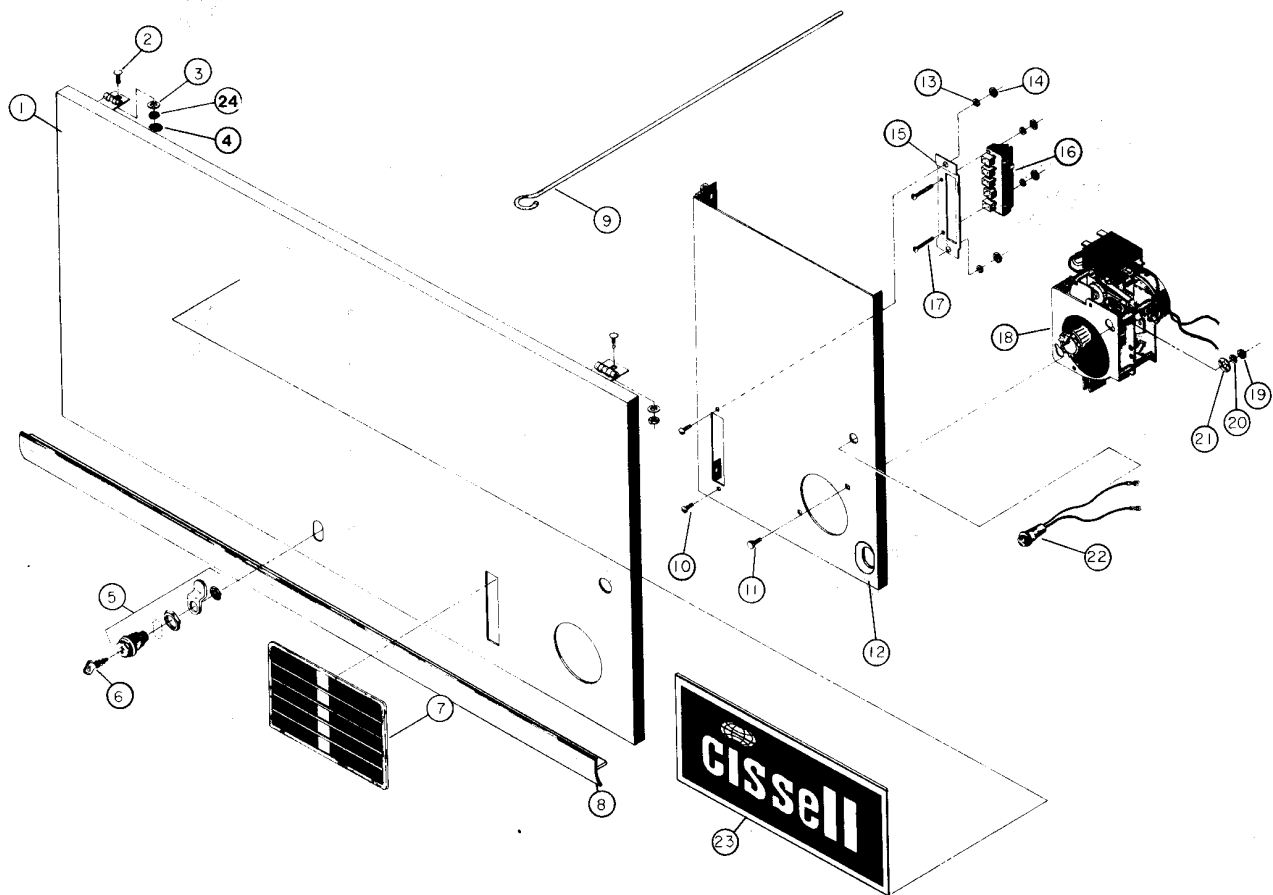
<u>Ref. No.</u>	<u>Part No.</u>	<u>Description</u>	<u>Ref. No.</u>	<u>Part No.</u>	<u>Description</u>
1.	TU8127	Access Door W/A	16.	TU6019	Timer Mounting Plate
	TU9365	Access Door W/A(Rev.Models)	17.	TU6109	Timer 0-60,120V./60 Hz.
2.	TU8013	Cissell Nameplate		TU5842	Timer 0-60,240V./60 Hz.
3.	TU8014	Therm-O-Cool		TU6083	Timer 0-60,240V./50 Hz.
		Nameplate	18.	TU8393	Single Timer Control
4.	TU4822	Lock #3186			Panel Weldment
5.	TU2844	Key JWC2	19.	TU3624	#6-32 x 1/4" Round
6.	TU8351	Push Button Control			Head Screw
		Plate	20.	TU2555	Knob Complete
7.	TU3479	#10-32 x 7/16" Truss	21.	TU3279	#10-32 x 7/16"
		Head Screw			Truss Head Screw
8.	P104	1/4" Cut Washer	22.	TU5444	60 Minute Dial
9.	TU2842	#10-32 Hex Nut	23.	TU7241	#8 x 1/4" Sheet Metal
10.	TU5739	Support Rod			Screw
11.	TU3400	#6-32 Hex Nut	24.	TU5421	Pilot Light 120V.
12.	M270	#6 Int. Tooth Lock		TU5639	Pilot Light 240V.
		Washer	25.	TU7983	Upper Front Trim
13.	TU5106	Push Button Switch	26.	FB187	#10 Lock Washer
14.	SV136	#6-32 x 15/16" Round	27.	TU9382	Rev./Non-Rev. Label
		Head Screw	28.	FG147	Toggle Switch
15.	TU5153	Push Button Plate	29.	TU3805	15/32"-32 Lock Nut



DOUBLE TIMER CONTROL PANEL AND ACCESS DOOR PARTS  
All hardware sold only in packages of 6

Ref.No.	Part No.	Description	Ref.No.	Part No.	Description
1	TU8131	Access Door W/A	17	TU3479	#10-32 x 7/16" Truss Head Screw
	TU9369	Access Door W/A (Rev. Models)	18	P104	1/4" Cut Washer
2	TU8013	Cissell Nameplate	19	TU2842	#10-32 Hex Nut
3	SV136	#6-32 x 15/16" Round Head Screw	20	TU7983	Upper Front Trim
4	TU4822	Lock #3186	21	LB68	#8-32 x 3/8" Flat Head Screw
5	TU2844	Key JWC2	22	TU3624	#6-32 x 1/4" Round Head Screw
6	TU2555	Knob w/set screw	23	M270	#6 Internal Tooth Lock Washer
7	TU5445	Dial 0-15 Min.	24	TU3400	#6-32 Hex Nut
8	TU5444	Dial 0-60 Min.	25	TU7241	#8 x 1/4" S.M.Screw
9	TU8393	Control Panel W/A	26	TU3805	15/32"-32 Lock Nut
10	FG147	Toggle Switch	27	TU5739	Support Rod
11	TU5421	Pilot Lamp 120 V.	28	FB187	#10 Lock Washer
	TU5639	Pilot Lamp 240 V.	29	TU8418	On/Off Label
12	TU6019	Timer Mounting Plate	30	TU9382	Rev./Non-Rev. Label
13	TU6110	Timer 0-15,120V./60 Hz.			
	TU6109	Timer 0-60,120V./60 Hz.			
	TU5843	Timer 0-15,240V./60 Hz.			
	TU5842	Timer 0-60,240V./60 Hz.			
	TU6082	Timer 0-15,240V./50 Hz.			
	TU6083	Timer 0-60,240V./50 Hz.			
14	TU5153	Push Button Plate			
15	TU5106	Push Button Switch			
16	TU8351	Push Button Label			

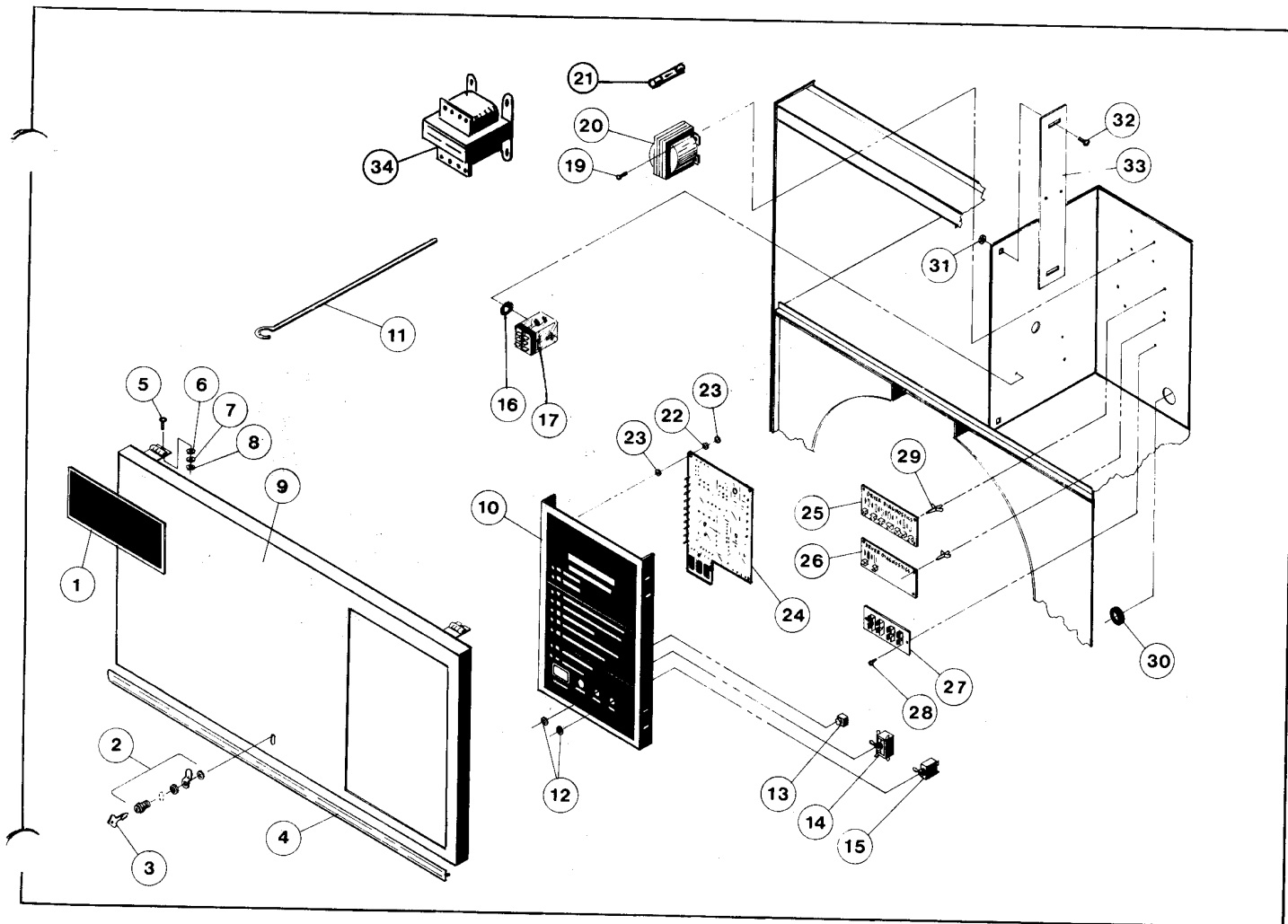




COIN METER CONTROL PANEL AND ACCESS DOOR PARTS

ALL HARDWARE SOLD ONLY IN PACKAGES OF 6

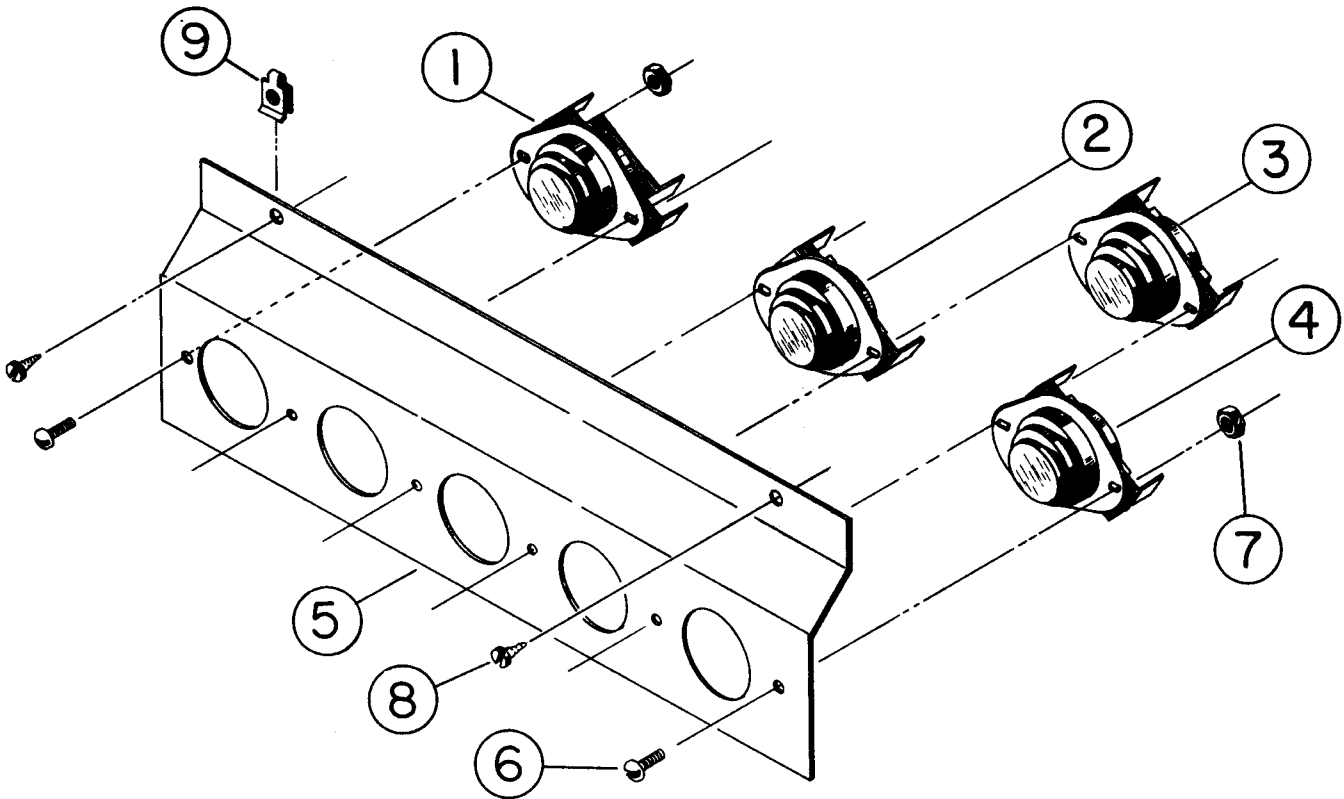
<u>Ref. No.</u>	<u>Part No.</u>	<u>Description</u>	<u>Ref. No.</u>	<u>Part No.</u>	<u>Description</u>
1	TU8127	Access Door Welded Assembly	13	M270	#8 Int. Tooth Lock Washer
2	TU3479	#10-32 x 7/10" Truss Head Screw	14	TU3400	#6-32 Hex Nut
3	P104	1/4" Cut Washer	15	TU5153	Push Button Plate
4	TU2842	#10-32 Hex Nut	16	TU5106	Push Button Switch
5	TU4822	Lock #3186	17	SV136	#6-32 x 15/15" Round Head Screw
6	TU2844	Key JWC2	18		Coin Meter (Specify Voltage, Coin Denomination, and Single or Double Slot Coin Meter)
7	TU8351	Push Button Control Plate	19	TU3266	#8-32 Hex Nut
8	TU7983	Upper Front Trim	20	FB187	#10 Lock Washer
9	TU5739	Support Rod	21	P104	1/4" Cut Washer
10	TU3624	#6-32 x 1/4" Machine Screw	22	TU5421	Pilot Light 120V.
11	TU4958	#8-32 x 3/8" Machine Screw	22	TU5639	Pilot Light 240V.
12	TU8393	Single Coin Meter Control Panel Weldment	23	TU8013	Cissell Nameplate
			24	FB187	#10 Lock Washer



### 50 & 70 LB. PROMPTER CONTROLS

#### Access Door, Control Panel, & Mechanism Box Assemblies

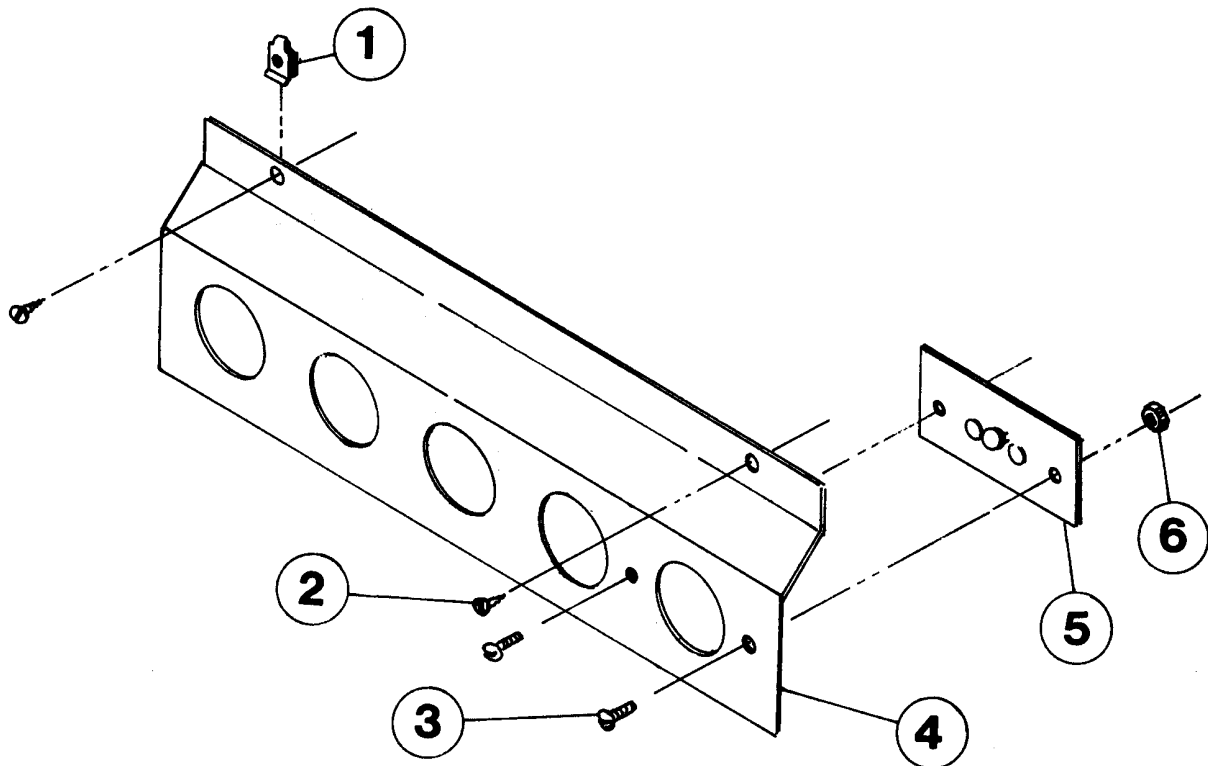
Ref. No.	Part No.	Description	Ref. No.	Part No.	Description
1	TU9591	Cissell Nameplate	17	TU8599	Ign. Relay
2	TU4822	Lock #3186	18		
3	TU2844	Key - JWC2	19	TU7733	#8x $\frac{1}{2}$ Self Tap Screw
4	TU7983	Upper Front Trim	20	TU8737	Transformer
5	TU3479	#10-32x7/16" Tr. Hd. Screw	21	TU8738	Fuses
6	P104	$\frac{1}{4}$ " Cut Washer	22	M270	I. T. Lockwasher
7	FB187	#10 Lockwasher	23	TU3400	#6-32 Hex Nut
8	TU2842	#10-32 Hex Nut	24	TU9682	Prompter Control P.C. Board
9	TU9799	Access Door W/A	25	TU9684	Upper Diagnostic Board
10	TU9778	Control Panel Assy. Rev. Models	26	TU9777	Lower Diagnostic Board
	TU9806	Control Panel Assy. (Non-Rev.)	27	TU8629	Terminal Board
11	TU5739	Support Rod	28	TU7733	#8x $\frac{1}{2}$ Self Tap Screw
12	TU3805	Lock Ring	29	TU9347	P.C. Board Support
13	TU9500	Reset Switch	30	TU9693	Bushing
14	TU264	Toggle Switch (On/Off)	31	TU2842	Hex Nut
	FG147	Toggle Switch (Reversing Only)	32	TU3479	#10-32x7/16 Tr. Hd. Screw
16	TU3400	#6-32 Hex Nut	33	TU9384	Adjustment Strip
			34	TU9804	Transformer (480V. Only)



THERMOSTAT ASSEMBLY  
(C & F MODELS)

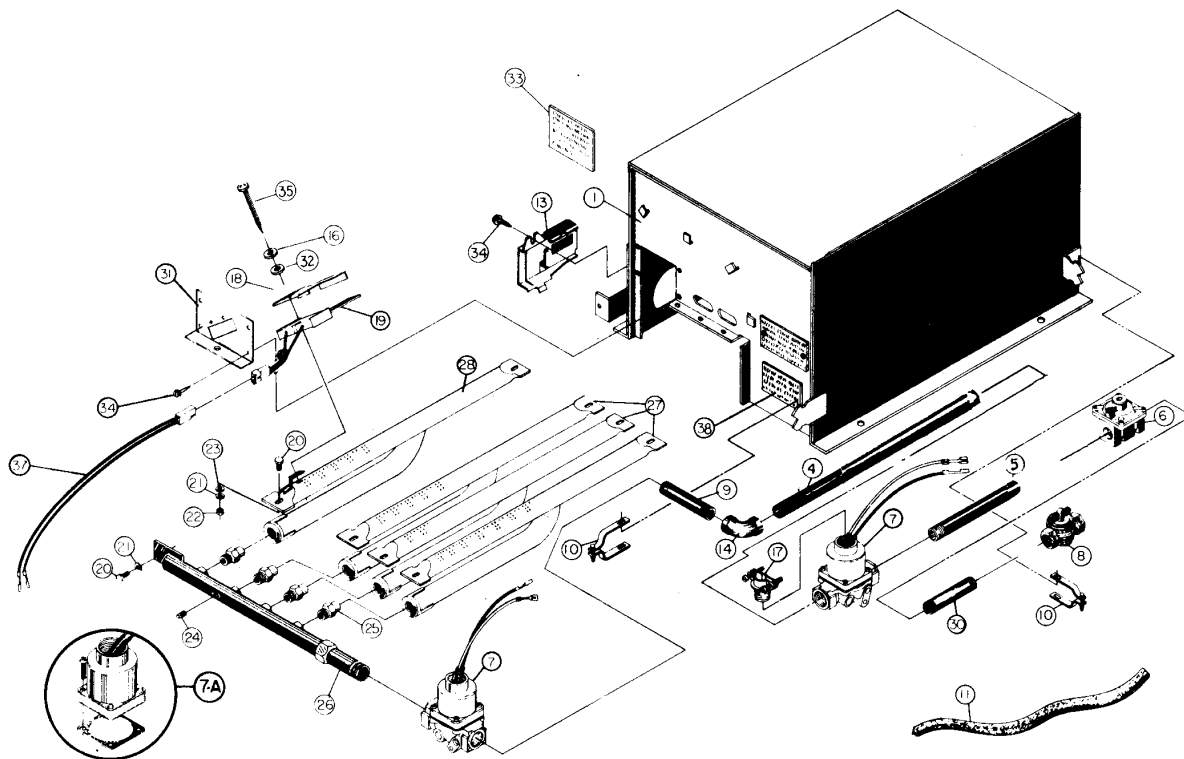
ALL HARDWARE SOLD ONLY IN PACKAGES OF 6

<u>Ref. No.</u>	<u>Part No.</u>	<u>Description</u>
1.	TU2045	Thermostat (Cool-Down) 1-Timer Models only
2.	TU3240	185 Degrees Fahrenheit Thermostat (High) Heat
3.	TU5150	150 Degrees Fahrenheit Thermostat (Medium) Heat
4.	TU7244	135 Degrees Fahrenheit Thermostat (Low) Heat
5.	TU5143	Mounting Bracket
6.	TU3624	#6-32 x 1/4" Round Head Machine Screw (6 req'd)
7.	TU3400	#6-32 Hex Nut
8.	TU7733	#8 x 1/2" Self-Drilling Screw
9.	TU6067	#8 Tinnerman Clip (2 req'd)



TU9810 - THERMISTOR ASSEMBLY - PROMPTER MODELS

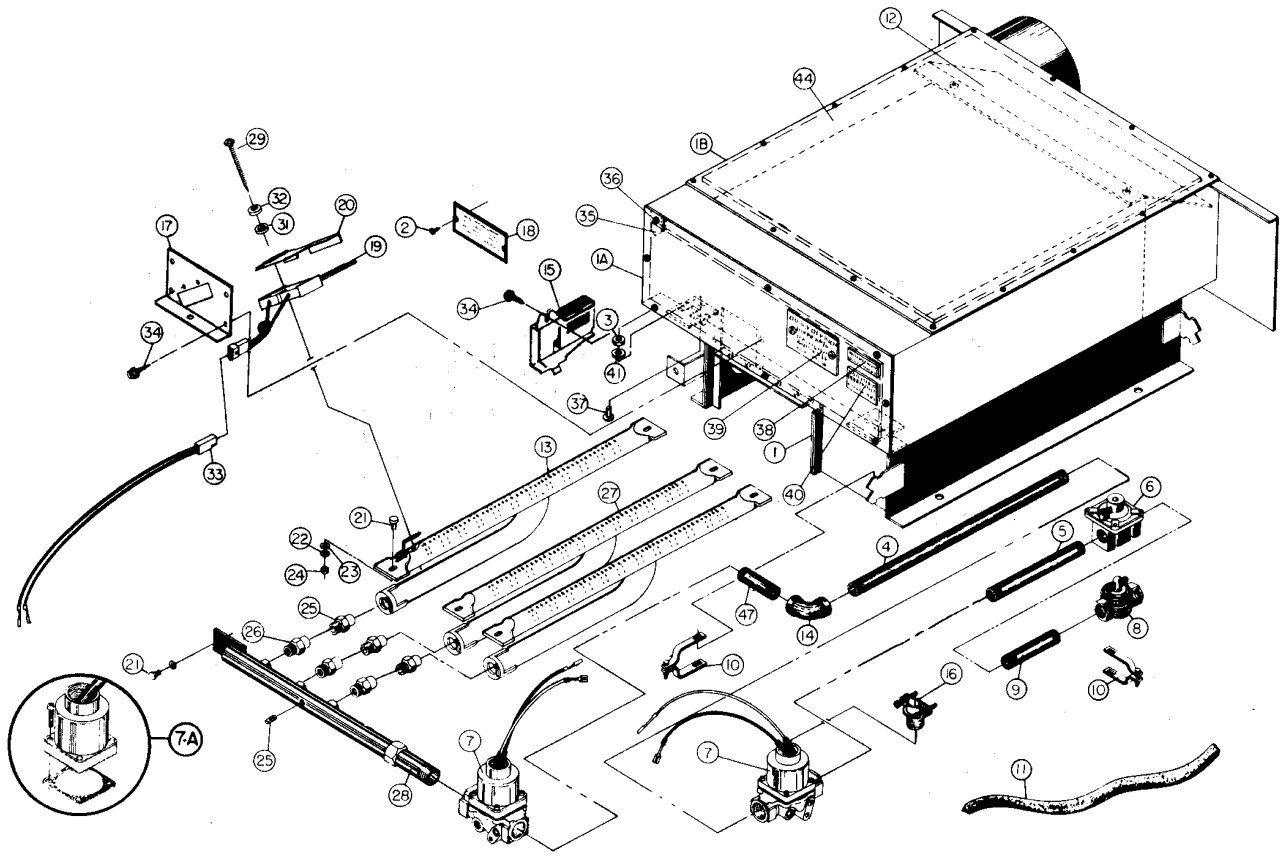
<u>Ref. No.</u>	<u>Part No.</u>	<u>Description</u>
1	TU6067	#8 Tinnerman Clip
2	TU2878	#10 x 5/8 S.M.S.
3	TU3624	#6-32x $\frac{1}{4}$ " Rd. Hd. Screw
4	TU5143	Mounting Bracket
5	TU9688	Thermistor
6	TU3400	#6-32 Hex Nut



GAS BONNET & BURNER ASSEMBLY - TU8674 (Natural Gas)  
 GAS BONNET & BURNER ASSEMBLY - TU8836 (L.P. GAS)

MODELS:  
 L36CS30G & L36CD30G

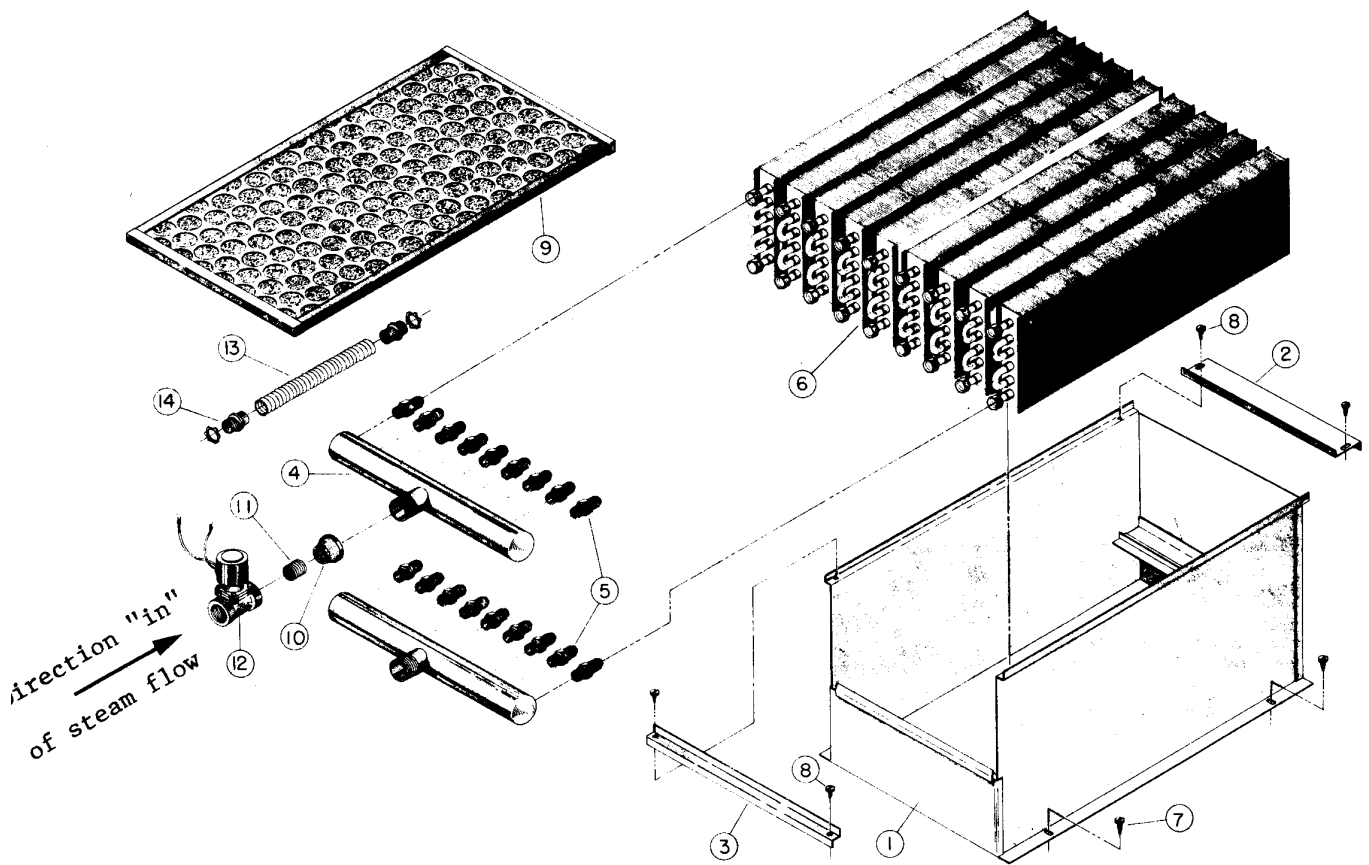
Ref. No.	Part No.	Description	Ref. No.	Part No.	Description
1	TU8683	Bonnet Welded Assembly	21	TU2846	1/4" Split Lock Washer
2	TU7733	#8-18x1/2 Self Drill Screw	22	TU4934	1/2"-20 Hex Nut
3			23	TU2847	1/4" Flat Washer
4	TU2724	1/2" Pipe Nipple 25"	24	TU2224	1/8" Pipe Plug
5	OP308	1/2" Pipe Nipple-4" Lg.	25	TU3539	Gas Burner Orifice (Specify Size)
6	TU9177	Regulator 1/2 x 1/2 (Natural Gas Only)	26	TU8288	Manifold Assembly
7	TU6557	Baso Gas Valve	27	TU7840	Burner Assy. (Right Side)
7A	TU3832	Baso Gas Valve Coil Assy.	28	TU8760	Burner Ignition (Left Side)
8	TU6321	Gas Cock	29	TU8613	Norton Igniter Instructions
9	390401012	Pipe Nipple 1/2 x 3 1/2	30	OP290	Nipple 1/2" x 2" (Natural Gas Only)
10	TU2226	Manifold Mounting Bracket	31	TU8690	Norton Igniter Plate
11	136067752	Fiberglass Tubing	32	P104	1/2" Cut Washer Brass
12	TU6089	Pipe Bushing	33	TU8645	Installation Instructions
13	TU8598	Radiant Sensor	34	602102180	#8 x 1/2 Hex Head Slot Screw
14	390501053	1/2" Elbow	35	TU3416	#8x1 1/2 S.M.S.
15	TU3266	8-32 Hex Nut	36	SV332	#8-32 x 3/8 Round Head Machine Screw
16	M271	Brass Lock Washer	37	TU8605	Molex Connector
17	C1365	Connector T & B	38		Gas Rating Plate
18	TU9540	Heat Shield			
19	TU8596	Norton Igniter			
20	CB36	1/2"-20 x 1/2 Hex Head Screw			



GAS BONNET & BURNER ASSEMBLY - TU8698 (Natural Gas)  
 GAS BONNET & BURNER ASSEMBLY - TU8837 (L.P. Gas)

MODELS:  
 L36FS30G & L36FD30G

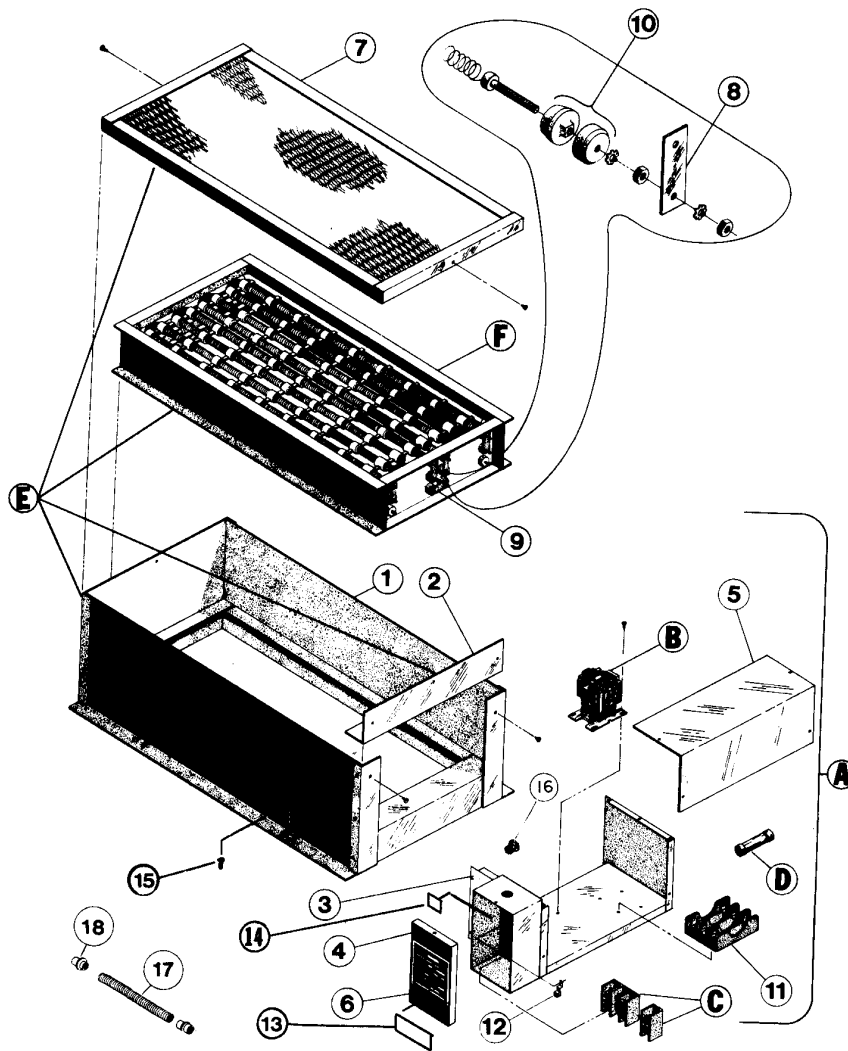
Ref. No.	Part No.	Description	Ref. No.	Part No.	Description
1	TU8697	"F" Bonnet Welded Assy.	23	TU2847	1/4" Flat Washer
1A	TU8561	Front Plate Hinge Assy.	24	TU4934	1/4"-20 Hex Nut
1B	TU7787	Top Panel	25	TU2224	1/8" Pipe Plug
2	TU7733	#8x1/2 Self Drill Screw	26	TU3539	Gas Burner Orifice (Specify Size)
3	TU2842	10-32 Hex Nut	27	TU7840	Burner Assembly
4	TU2724	Pipe Nipple 1/2" x 25"	28	TU8288	Manifold Assembly
5	OP308	1/2" Pipe Nipple-4" Lg.	29	TU3416	#8x1 1/4 S.M.S.
6	TU7935	Regulator (Nat'l. Gas Only)	30		
7	TU6557	Baso Gas Valve	31	M271	Brass Lock Washer
7A	TU3832	Baso Gas Valve Coil Assy.	32	P104	1/4" Cut Washer Brass
8	TU6321	Gas Cock	33	TU8605	Molex Connector
9	OP290	Pipe Nipple 1/2" x 2" (Natural Gas Only)	34	602102180	8x1/2 Hex Head Slot Screw
10	TU2226	Manifold Mount. Bracket	35	TU2877	#10 Tinnerman Nut
11	136067752	Fiberglass Tubing	36	TU2878	#10x5/8 Sheet Metal Screw
12	TU7294	Upper Rear Air Deflector	37	TU3479	10-32x7/16" Truss Hd. Screw
13	TU8760	Burner Ignition (Left Side)	38	TU8613	Norton Igniter Instructions
14	390501053	1/2" Elbow	39		Gas Rating Plate
15	TU8598	Radiant Sensor	40	TU8645	Installation Instructions
16	C1365	Connector T&B (Gas Valve)	41	P104	Cut Washer
17	TU8690	Igniter Mounting Plate	42	TU3266	8-32 Hex Nut
18	TU7373	Clean Out Panel Nameplate	44	TU2853	Gasket
19	TU8596	Norton Igniter	45	SV332	8-32x3/8 Round Head Machine Screw
20	TU9540	Heat Shield			
21	CB36	1/4"-20x1/2" Hex Head Screw	47	OP290	1/2" Pipe Nipple-2" Lg.
22	TU2846	1/4" Split Lock Washer			



NINE SECTION STEAM BONNET ASSEMBLY "C" MODEL

TU7461 9 Section Steam Bonnet Assembly w/ solenoid valve 120V  
 TU7462 9 Section Steam Bonnet Assembly w/ solenoid valve 240V

<u>Ref. No.</u>	<u>Part No.</u>	<u>Description</u>
1	TU2546	Housing Weldment
2	TU2547	Front Coil Retainer
3	TU2548	Rear Coil Retainer
4	TU2413	Steam Coil Manifold
5	TU2414	3/4"-16 x 3/8" Straight Connector
6	TU2405	Steam Coil (9 req'd.) 7 3/4" W x 1 5/8" H x 26" Lg.
7	TU3209	#14 x 5/8" S.M.S.
8	M263	#8 x 3/8" S.M.S.
9	TU2598	Air Filter 16" x 25" x 1"
10	TU2735	1" x 3/4" Reducer
11	TU4596	3/4" Close Pipe Nipple
12*	TU6041	Solenoid Valve 120V, 50 or 60 Cycle
	TU5924	Solenoid Valve 240V, 50 or 60 Cycle
13	50-4641-292	Greenfield Cable, 1/2" (Specify 21" Long)
14	TU4790	1/2" Straight Conn. (2 req'd)
*	TU5939	240V Coil for TU5924
	TU7151	120V Coil for TU6041



ELECTRIC BONNET ASSEMBLY "C" MODEL

All Hardware Sold Only in Packages of 6

Ref.No.	Part No.	Description	Ref. No.	Part No.	Description
1	TU3103	Bonnet Weldment	13	TU9254	High Voltage Label-415V.
2	TU3102	Hold Down Plate	14	TU9258(D-1A)	Grounding Label
3	TU9205	Control Box Weldment	15	TU3209	#14 x 5/8" S.M.S.
4	TU9207	Terminal Box Cover	16	TU5958	Bushing (2 req'd.)
5	TU9206	Top Cover	17	504641292	½" Greenfield Cable 11½" Lg
6	TU8518	Branch Circuit Label (Single Motor)	18	TU4790	Straight Connector(2 req'd.)
	TU8519	Branch Circuit Label (Double Motor)			
7	TU3104	Air Inlet Cover	A	See next page	Control Box L/Wiring
8	TU3767	Contact Strap(4 req'd.)	B	"	Contactor
9	TU3768	Contact Strap(1 req'd.)	C	"	Terminal Block
10	TU3253	Insulators(Pkg. of 6)	D	"	Fuse
11	TU9141	Fuse Holder	E	"	Bonnet W/Elements
12	TU7738	Grounding Lug	F	"	Heater Elements



# 50 Lb. Dryer Electrical Specifications\*

Rated Heater Input	Heater Amperes, Motor Amperes, Control Amperes, Total Amperes at Rated Voltage	Minimum Size Supply Wire Based on 60°C (140F) Insulated Copper Conductor	Single Motor		Basket Motor		Fan Motor		Heater Element Fuse Size	
			Circuit Phase	Minimum Trade Size	Conduit Trade Size	Heater Size	Motor Size	Heater Size	Element Size	
30 KW 208V/3Ph/60Hz	88.4 Amps	2 AWG	1 Phase	1 Phase	1 1/4	H-27	H-27	H-27	30 KW	60
30 KW 208V/3Ph/60Hz	86.6 Amps	2 AWG	1 Phase	1 PH	1 1/4	H-27	H-27	B&F	30 KW	60
30 KW 208V/3Ph/60Hz	86.6 Amps	2 AWG	3 Phase	3 PH	1 1/4	H-16	H-16	H-16	30 KW	60
30 KW 208V/3Ph/60Hz	85.6 Amps	2 AWG	1 Phase	1 PH	1 1/4	H-22	H-22	B&F	30 KW	60
30 KW 240V/3Ph/60Hz	77.4 Amps	3 AWG	1 Phase	1 PH	1 1/4	H-20	H-20	H-20	30 KW	60
30 KW 240V/3Ph/60Hz	75.6 Amps	3 AWG	3 Phase	3 PH	1 1/4	H-23	H-23	B&F	30 KW	60
30 KW 240V/3Ph/60Hz	75.6 Amps	3 AWG	3 Phase	3 PH	1 1/4	H-16	H-16	H-16	30 KW	60
30 KW 240V/3Ph/60Hz	74.6 Amps	3 AWG	3 Phase	3 PH	1 1/4	H-20	H-20	B&F	30 KW	60
30 KW 240/415/3Ph/50Hz	74.2 Amps	3 AWG	3 Phase	3 PH	1 1/4	H-11	H-11	H-11	30 KW	50
30 KW 480/3Ph/60Hz	38.4 Amps	8 AWG	3 Phase	3 PH	1	H-11	H-11	H-11	30 KW	35
30 KW 550/3Ph/60Hz	33.9 Amps	8 AWG	3 Phase	3 PH	1	H-8	H-8	H-8	30 KW	35

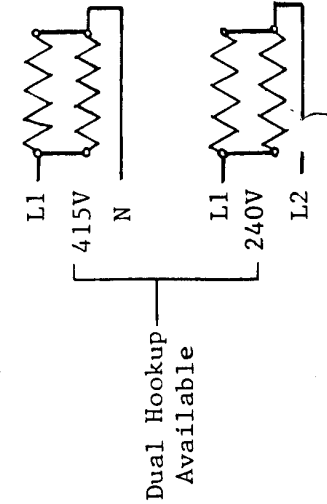
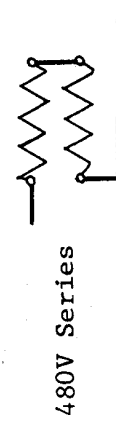
\* For Branch Circuit Nameplates: TU8518 (Single Motor) & TU8519 (Double Motor)

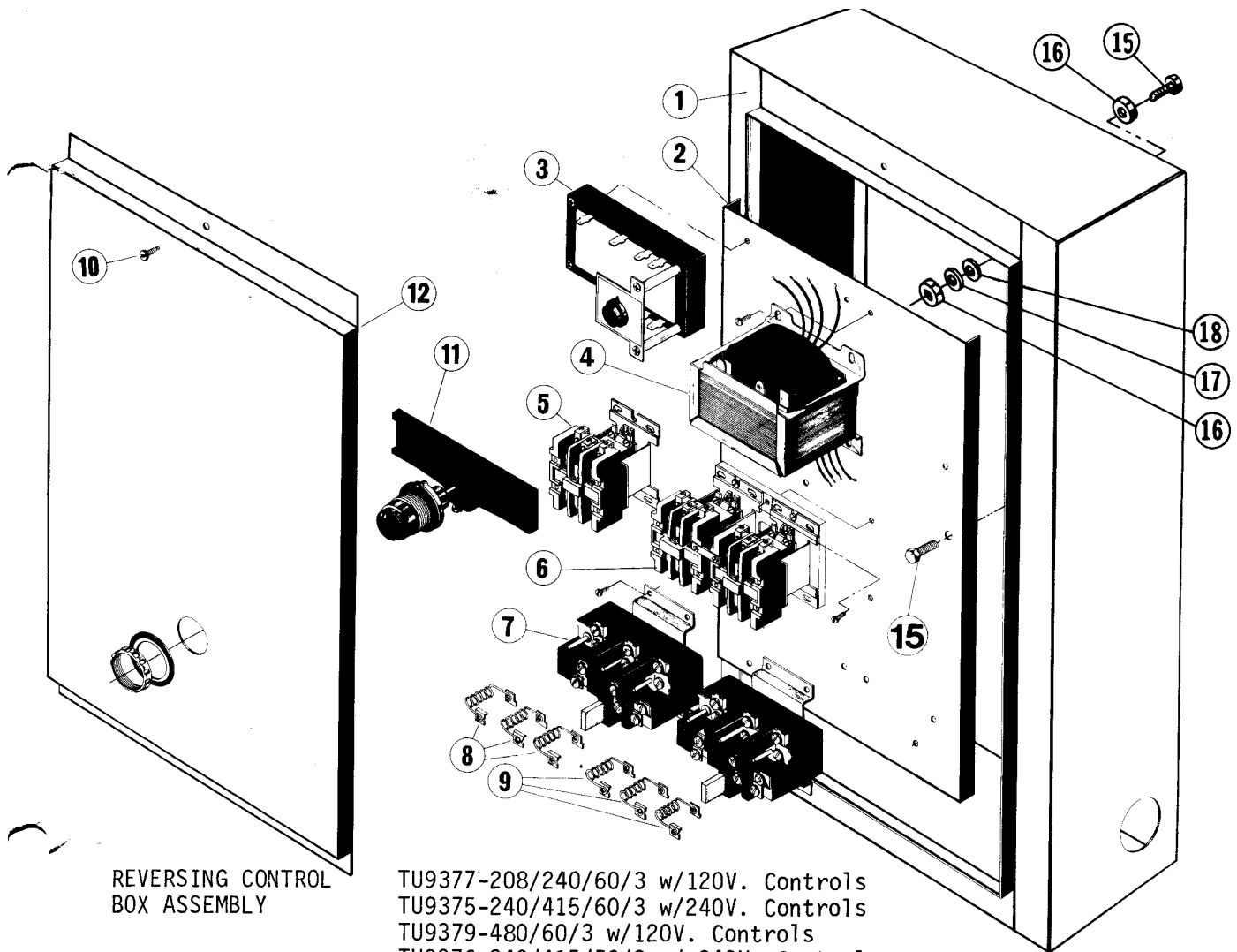
## ELECTRIC BONNET "C" MODEL FOR 30 KW HEATING ELEMENTS ONLY

A	B	C	D	E	F
CONTROL BOX L/WIRING	CONTACTOR (COIL VOLTAGE)	TERMINAL BLOCK	FUSE	BONNET W/ ELEMENTS	HEATER ELEMENT
TU9242 (240V)	TU9170 (240V) 60 Amp	TU9143	TU7476 60 Amp	TU7589 (30KW) 208V.-3 PH	TU7056, 240V, 40KW USED FOR 208V, 30KW
TU9243 (240V)	TU9169 (240V) 50 Amp	TU9143	TU7090 50 Amp	TU7590 (30KW) 240V.-3 PH	TU6946 30KW-240V.
TU9244 (240V)	TU9169 (240V) 50 Amp	TU9143 * TU9142 **	TU7090 50 Amp	TU7590 (30KW) 240 or 415V-3PH	TU6946 30KW-240V.
TU9245 (240V)	TU9140 (240V) 40 Amp	TU9143	TU7071 35 Amp	TU7590 (30KW) 480V.-3 PH	TU6946, 30KW, 240V. USED FOR 30KW, 480V.

NOTE: 30 KW Heating Elements are equipped on 50 lb. dryers only.

\* 3 Pole  
\*\* 1 Pole (Neutral)





REVERSING CONTROL  
BOX ASSEMBLY

TU9377-208/240/60/3 w/120V. Controls  
 TU9375-240/415/60/3 w/240V. Controls  
 TU9379-480/60/3 w/120V. Controls  
 TU9376-240/415/50/3 w/ 240V. Controls

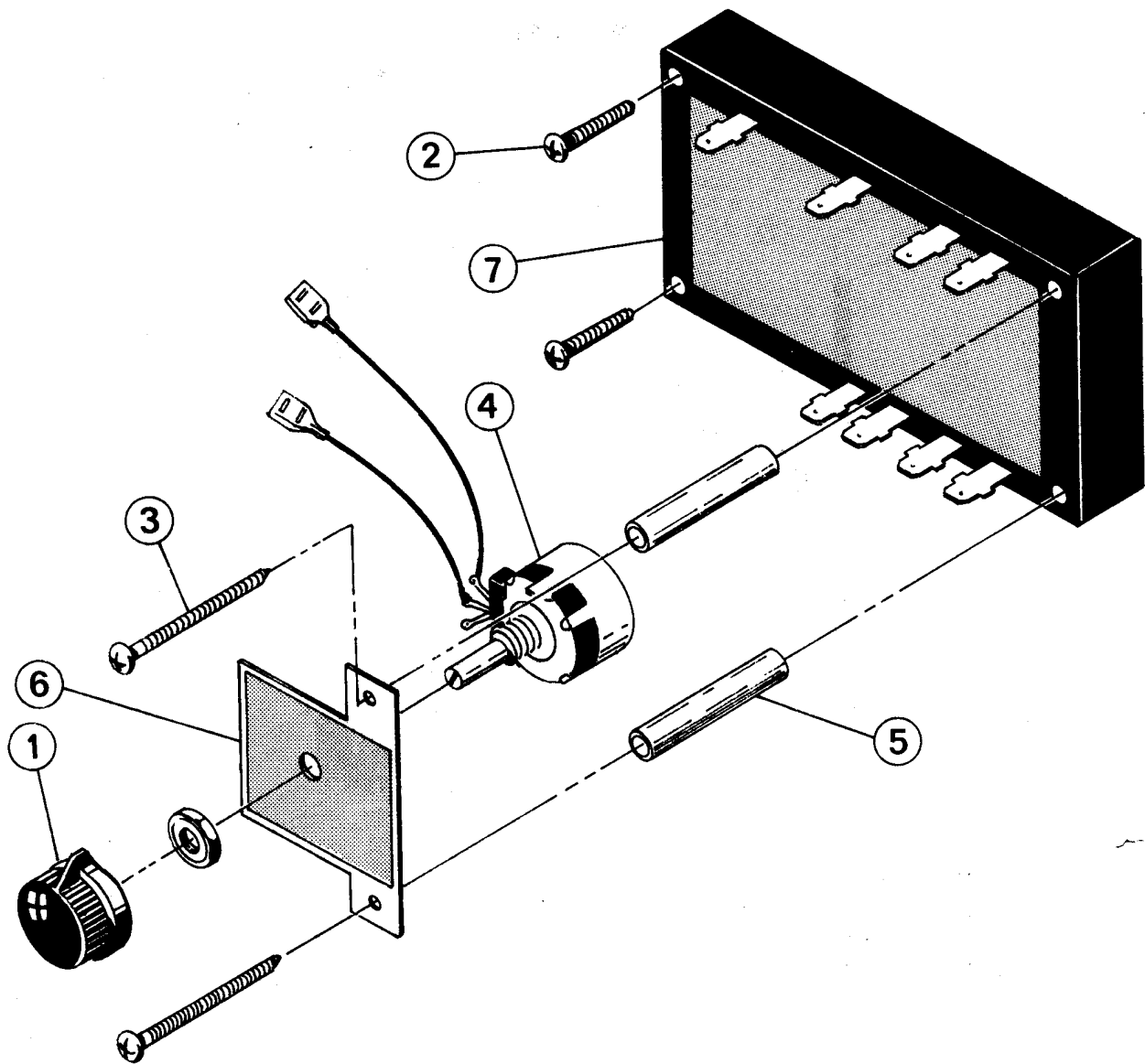
Ref.No.	Part No.	Description
1	TU9374	Control Box Welded Assembly
2	TU6959	Mounting Panel Plate
3	—	Solid State Reversing Control (See next page).
4	TU4659	Transformer(for TU9375 Only)
	TU4660	Transformer(for TU9377 & TU9379 Only)
5	**TU6965	Contactor- 120V./60 Hz.
	***TU6963	Contactor- 208/240V./60 Hz.
	****TU8727	Contactor- 240V./50 Hz.
6	**TU7252	Rev. Contactor- 120V./60 Hz.
	***TU6964	Rev. Contactor- 208/240V./60 Hz.
	****TU8728	Rev. Contactor- 240V./50 Hz.
7	TU6774	Overload Unit(2 Req'd.)
8	*TU267900	Overload Heater (Fan)
9	*TU267900	Overload Heater (Basket)
10	P274	¼"-20x3/4" Truss Head Screw
11	TU6808	Reset Button Kit
12	TU6834	Box Cover Plate
13	M263	#8x3/8" S.M.Screw
15	FB189	¼"-20x1" Hex Bolt
	16	TU4934 ½-20 Hex Nut
	17	TU2846 ½ Cut Washer
	18	TU2847 ½ Flat Washer

\* When ordering, specify number on heater, e.g. : H-25 and TU267900.

\*\* TU7281- Contactor Coil Only.

\*\*\* TU7282- Contactor Coil Only.

\*\*\*\* TU8689- Contactor Coil Only.



SOLID STATE REVERSING CONTROL

<u>Ref. No.</u>	<u>Part No.</u>	<u>Description</u>
1	PT118	Knob
2	TU9928	#8 x 1" Phillips Pan Hd. Screw
3	TU9929	#8 x 2½ Phillips Pan Hd. Screw
4	TU9946	Potentiometer & Wire Assembly
5	TU9924	Spacers
6	TU10039	Potentiometer Bracket W/Label
7	TU9921	Reversing Control - 120V. 50/60 Hz.
	TU9922	Reversing Control - 240V. 50/60 Hz.